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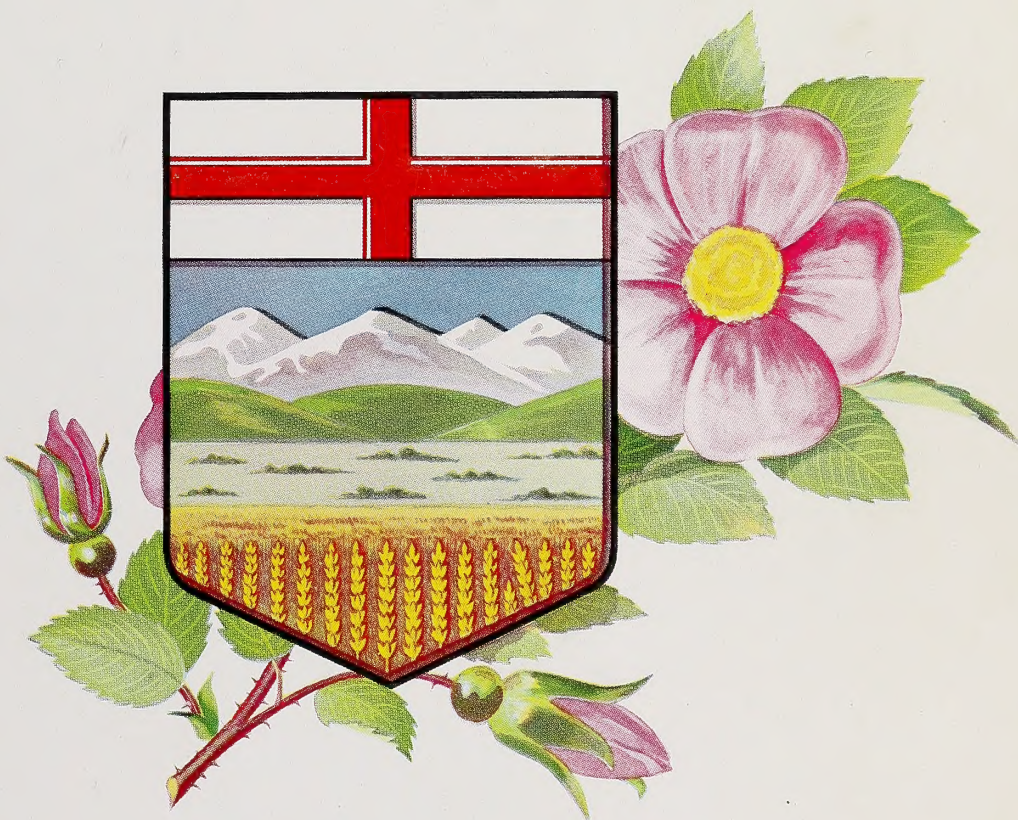
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ALBERTA INDUSTRY and RESOURCES



PUBLISHED BY

ALBERTA BUREAU OF STATISTICS

DEPARTMENT OF INDUSTRY AND DEVELOPMENT

GOVERNMENT OF ALBERTA



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GOVERNMENT OF THE PROVINCE OF ALBERTA



ALBERTA INDUSTRY and RESOURCES

PREPARED BY
THE ALBERTA BUREAU OF STATISTICS

PUBLISHED BY AUTHORITY OF
HONOURABLE A. R. PATRICK
MINISTER OF INDUSTRY AND DEVELOPMENT

EDMONTON, ALBERTA

Printed by
L. S. WALL
Printer to Her Most Excellent Majesty
1959



Edmonton, Alberta,
September 1, 1959.

Alberta is a province rich in opportunities for business expansion. Our industrial growth during recent years has been rapid and diversified to an extent never before attained on the western prairies.

Our growing population provides a ready and expanding domestic market for products both old and new. The continued advance of research and technology opens new fields for industrial growth. Power resources and raw materials are available for a myriad of products.

Government policy is to encourage and assist industrial growth by providing an economic climate in which business can operate profitably. Various services have been established to enable businessmen to discover and take advantage of opportunities which arise.

You are invited to investigate these opportunities.

A handwritten signature in cursive script that reads "A. R. Patrick".

Hon. A. R. Patrick, Minister,
Department of Industry and Development

FOREWORD

This book is designed to aid in and to stimulate the industrialization of Alberta and the prairie region. In it are presented statistical tables and graphical material in most constant demand by research divisions of the manufacturing firms.

Western Canada offers a market potential of nearly five million persons between Fort William, Ontario; and Victoria, British Columbia. Within the region are to be found a wide variety of raw materials ranging from food products to rare minerals. It is a region settled comparatively recently, the inhabitants of which insist on securing and enjoying the goods and services and amenities of much older communities. There is therefore a much larger field open for developing and servicing than in "older" regions.

The Prairie-Pacific Region has been slow in developing industrially. Partly this was because the relatively low aggregate population could not in itself provide an economic market for some types of manufacturing. Mainly, however, it was because firms in other regions felt that western Canada was a "tied" market which could be serviced by a small sales force and felt under no compulsion to establish plants using western labour and western raw materials in the manufacturing process.

With the growth of population and the development of transportation facilities industrial development in western Canada can no longer be deferred either through indifference or by design. Local capital and local businessmen are beginning to close the import balance of trade by processing raw and semi-finished goods in the area for local consumption or for export. Foreign capital and technology are more than welcomed where local resources are inadequate for industrial development. The resources of the area are becoming better known and its market potential better appreciated.

We gratefully acknowledge the assistance direct and indirect of the following individuals and organizations: R. E. English, Statistician, Department of Agriculture; J. J. Frawley, Special Counsel, Executive Council; Dr. G. T. S. Govett, Research Council of Alberta; Industrial Commissioners of Alberta cities; C. W. Jackman, Statistician, Department of Mines and Minerals; W. A. Lang, Research Council of Alberta; J. J. MacGregor, Alberta Power Commission; J. Telford, Alberta Freight Bureau.

For much of the historical and census data, we are indebted to publications of the Dominion Bureau of Statistics.

September, 1959

DEPARTMENT OF INDUSTRY AND DEVELOPMENT
ALBERTA BUREAU OF STATISTICS

D. I. ISTVANFFY - STATISTICIAN

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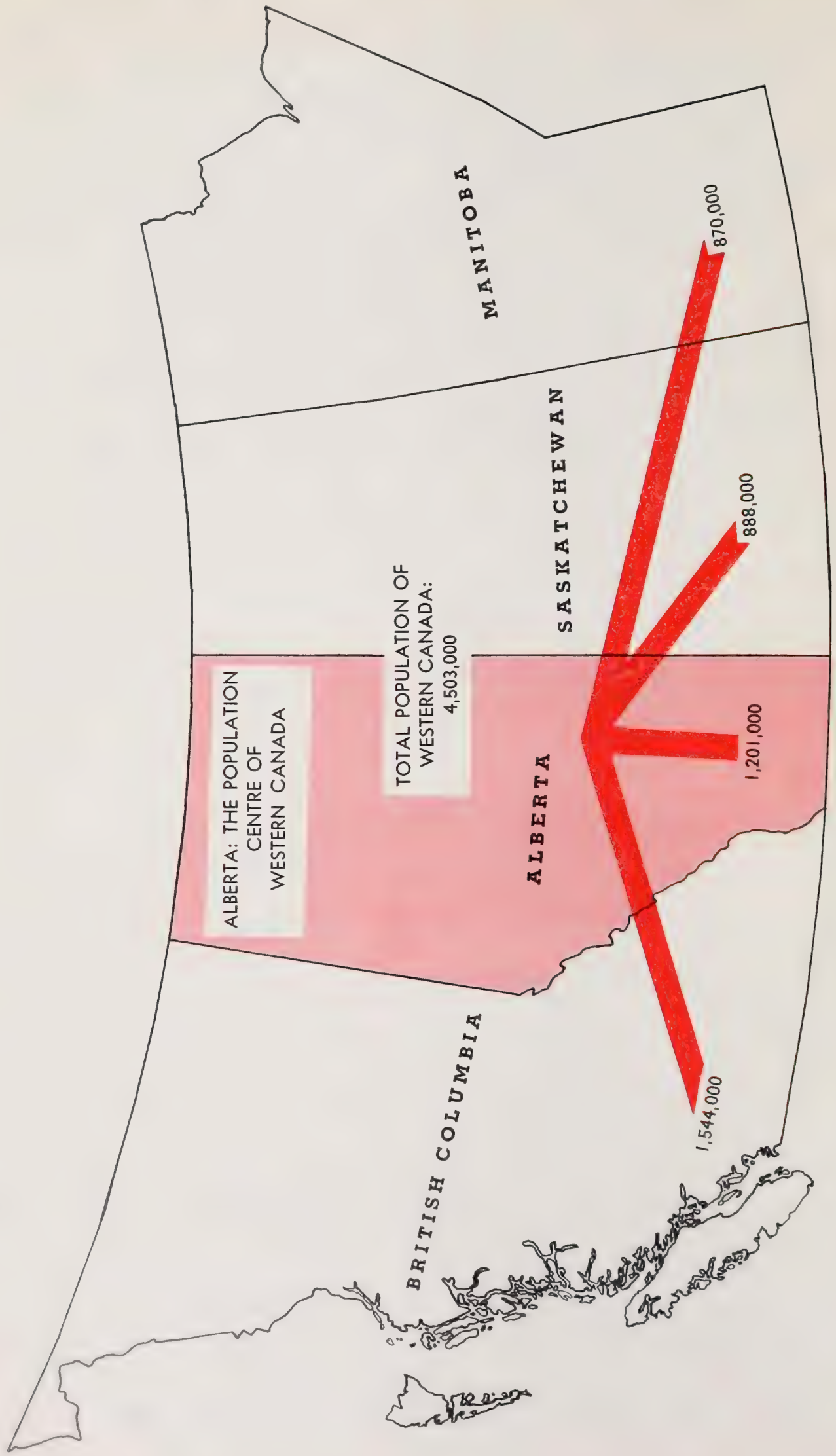
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GEOGRAPHY

Alberta is a rich and fruitful province. Its soil yields its increase in due season, and it brings forth abundantly. The very diversity of Alberta's surface has been one of the greatest sources of enrichment in the short history of the province. However, fruitful and agreeable as the province is, it has some sizeable limitations.

Alberta is a plateau averaging more than 300 miles from east to west and 800 miles from south to north, a total of 255,285 square miles. This region is a wide inclined plain deeply cut by rivers and marked by plateaux, merging in the west with the foothills of the Rocky Mountains.

The province may be divided roughly into three grand divisions which shade one into the other. The southern division is treeless, rolling prairie covered naturally with short grass and extending for more than 200 miles north of the international boundary to about the Red Deer River. It is watered by the Old Man, St. Mary's, Bow and Red Deer rivers.

The central division is mostly a park-like country, a succession of wide ridges and broad valleys freely interspersed with lakes and streams and covered with belts of timber which give the landscape a pleasing and hospitable appearance. Drainage is by the North Saskatchewan River with its numerous tributaries.

The third division comprises the northern half of the province. This is a region of great rivers, lakes and forests broken by tracts of open prairie like the Grande Prairie district and the wide sweeping terraces of the Peace River Valley. Three river systems, the Athabasca, Peace and Hay, drain this area. The Athabasca and Peace systems drain into the basin of Lake Athabasca which in turn is emptied by the Slave River northward into Great Slave Lake, the source of the MacKenzie River.

Alberta has two marked features: the great valley of the Peace River that has resulted in agricultural settlement farther north than in any other part of Canada; and the foothills district with its wonderful grazing lands which, rising sharply on the west, commence the ascent that continues to the very peak of the Rocky Mountains. The southern half of the province rising towards the west, lies at a general elevation of 2,000 to 4,000 feet. In the northern half the slopes descend until elevations well under 1,000 feet are reached at Lake Athabasca in the northeast corner.

The Canadian shield of Precambrian rock in the northeast covers about three per cent of Alberta. The surface characteristics are those of a rocky, hilly plateau. The rock is only slightly covered with vegetation, and the area has subdued relief and abundant lakes.

The great plains is the system of lowlands and plateaux that occupies the central area of North America. The topography of these plains shows the work of the last ice age which covered the whole region with boulder, clay, gravels and silts.

The Alberta plain tilts downward from west to east. The rate of slope is from ten to twenty feet per mile. The relief of the plain is highly varied locally. The landscape is typically rolling, with flat topped uplands and deeply incised river valleys. Ranges of hills, less than 5,000 feet above sea level but rising markedly above the plains, are prominent features. Except where rivers have cut deep steep-sided valleys into the rather soft sedimentary rock, the whole area is covered with hills, flats, sloughs, ponds or small lakes.

The foothills cover about five per cent of the province. The line of demarcation between the foothills and plains is not easily perceived; the country slowly becomes more rolling, the round-topped hills rise higher and higher and become increasingly steeper. Then the hills are transformed into jagged, precipitous mountains - the Rockies, with peaks rising over 12,000 feet. Their steep facades facing the east bear the evidence of the Glacial Age.

GEOLOGY

A part of the Canadian Shield extends into the northeastern corner of Alberta. The Shield is underlain by rocks of Precambrian age. These consist of series of sedimentary and volcanic formations and igneous intrusives of great variety. They were subjected to mountain-building processes, folded, crushed and metamorphosed, and the mountains were reduced nearly to their present level before the earliest Palaeozoic sediments were deposited. The Precambrian period was probably of greater duration than all the subsequent geological periods taken together. It is difficult to find a complete agreement on the main subdivisions of the Precambrian formations. The disagreement in classification is the result, primarily, of a long period of erosion.

Alberta plains are underlain by a series of nearly horizontal sedimentary rocks of Palaeozoic, Mesozoic and Tertiary ages. The Palaeozoic rocks, consisting mainly of limestone, dolomite and shale of Ordovician, Silurian and Devonian ages, form a triangular area extending southwest of the early Precambrian deposits that are found in the Lake Athabasca region. The Palaeozoic formations rest upon the gently sloping shelf of the Canadian Shield and pass westward with a dip of a few feet a mile beneath the shales and sandstones of the Cretaceous age. The Cretaceous formations occupy nearly the whole of the Alberta plains to the Rocky Mountains. The Cretaceous sediments vary, but consist predominantly of sandstones of continental origin. However, there are some alternations of shales of marine origin with sandstones of brackish or fresh-water origin. The Cretaceous beds are overlain in places by sediments of Tertiary age. The most extensive Tertiary formations are found in a belt running north through central Alberta, where they lie in a broad syncline.

The Cretaceous sediments are the reservoirs of great quantities of natural gas, and these and underlying formations are the source of the petroleum of the oil fields of Alberta. More than fifty million years ago, in late Cretaceous and early Tertiary eras, the Rocky Mountains were uplifted by compressive forces from the west. Strata from the west were overthrust on eastern bed-rock, and a system of folded and displaced sediments resulted. Later in the Tertiary era, there was a warping of strata eastward of the former uplift from the west. This warping formed the Alberta syncline, a concave basin of sedimentary beds. About 213,000 square miles of the province are underlain by sedimentary deposits. Nearly all of this area is in the plains, with about 12,000 square miles in the foothills.

The Upper and Lower Cretaceous, Mississippian, and Upper Devonian formations contain the most widespread oil and gas bearing systems. Some deposits occur also in limited areas of the Jurassic and Triassic.

The Alberta syncline has played a role of importance in the creation and production of bituminous minerals. On the upward-sloping eastern facade of the syncline have been found the majority of the presently important fields: Leduc-Woodbend, Pembina, Redwater, Bonnie Glen, Golden Spike, Wizard Lake. In the foothills of the Rockies are located fields which are better known for gas rather than for oil.

CLIMATE

Several prime factors play important roles in establishing climate: latitude, distance from the sea, altitude and prevailing winds. Alberta, with her huge area, has a wide range of climatic variations.

Alberta is the sunniest province of Canada. Its climate is exhilarating. Summer temperatures are pleasant, desirably warm. Low humidity results in the absence of the discomfort which summer heat causes in major centres in other parts of the continent. Clear skies make summer nights pleasantly cool. In winter, though, the temperature occasionally drops to low levels, the cold is alleviated by bright sunshine and by the low humidity. The chinook is the most striking winter weather occurrence of the region, most pronounced in southern Alberta. The effect of the chinook is not usually as spectacular in the Edmonton area, but if the Pacific air spreads over the whole of the prairies a generally milder spell is produced.

Weather causes no more difficulty in Alberta than in other parts of the northern half of North America; in some instances, the difficulties are less. However, as the all Canadian practice dictates, outside water lines must be protected against freezing.

Degree-days, obtained by assigning to any day a value equal to the number of degrees by which the mean temperature falls below 65° F., is often used by engineers to measure heating requirements. Using this standard, heating requirements in Alberta are not exceptionally high. Degree-days per year rise from 8000-9000 in southwest Alberta to 15,000 in the northeast corner. Fuel needs in the main settled area are above those of British Columbia, but below those of Saskatchewan and Manitoba. Fuel costs are much lower than in any other province. Southern Alberta figures for fuel needs are comparable with those for southwest Quebec and eastern Ontario.

Problems of weathering and corrosion are minimized by the generally low humidity of the atmosphere. Only about one-quarter of annual precipitation falls as snow and this lessens winter problems of transporting goods and personnel. Alberta's average annual snowfall is only about half that experienced in the populated parts of Quebec, the Maritime Provinces, and the upland section of British Columbia. The depth of the maximum snow cover is only about half that of southern Ontario and Quebec. The demands made on roof construction are thus more moderate in Alberta than in most other parts of Canada.

One disadvantage of extreme winter temperatures combined with light snow cover is relatively deep frost penetration. In severe winters when no snow cover exists, frost penetration may reach as much as thirteen feet in gravels. The effect on construction activities is to limit outside work, as in most other parts of Canada. Sewer, water and bridge work can, however, be continued. Most types of building construction can be carried on without interruption, even when excavation for foundations is necessary. New techniques, such as shielding open roofs or walls with polyethylene film, or enclosing the growing structure with plywood sheathing, permit work to be carried on while the enclosed area is inexpensively heated with natural gas.

Rainfall is sufficient except in the southeast area of the province. Aridity, however, no longer presents a problem in the Lethbridge region where it has been solved satisfactorily by means of irrigation works. In other parts of the province the seasonal pattern of precipitation definitely favours the farmer. Over most of Alberta, about 50 per cent of the year's precipitation normally falls as rain in the April to July period -- the growing season.

Since inland water traffic is of minor importance in Alberta, ice conditions lose much of the significance they hold for other parts of Canada. Local transportation is disrupted to some extent by ice formations and break-up at ferry crossings. Winter conditions in the northern parts enable travel by tractor-trains and trucks over areas which are practically impassable at other times of the year.

TABLE 1. STANDARD 30 YEAR (1921-1950) NORMALS OF TEMPERATURE,

		TEMPERATURE (DEGREES FAHRENHEIT)							PRECIPITATION (INCHES)	
		ELEVATION (FEET)	LOWEST	HIGHEST	JANUARY MEAN DAILY		JULY MEAN DAILY		MEAN ANNUAL PRECIP.	MEAN ANNUAL SNOWFALL
					MAX.	MIN.	MAX.	MIN.		
1	ALIX	2585	— 64	103	24	— 5	79	47	17.70	54.8
2	ATHABASCA	1690	— 61	101	14	— 9	77	44	17.38	58.0
3	BANFF	4583	— 60	94	22	4	73	43	17.95	73.5
4	BEAVERLODGE	2500	— 53	98	18	1	73	48	17.32	68.2
5	BROOKS	2487	— 50	104	21	— 1	83	52	---	---
6	CALGARY	3439	— 46	97	26	5	76	49	17.47	57.0
7	CALMAR	2200	— 57	98	18	— 5	75	47	18.27	49.9
8	CAMPSIE	2200	— 61	100	17	— 5	75	46	18.00	49.8
9	CARDSTON	3826	— 43	102	28	10	79	50	17.68	60.6
10	EDMONTON	2188	— 55	99	17	— 1	75	51	17.63	52.9
11	EDSON	2985	— 55	100	21	— 1	74	44	19.91	58.4
12	ELK POINT	1920	— 64	102	9	— 10	75	47	15.16	42.7
13	ENTRANCE	3216	— 60	100	26	2	74	43	19.06	52.6
14	FORT MACLEOD	3128	— 49	110	28	10	81	53	17.24	50.8
15	FORT VERMILION	950	— 73	101	2	— 19	76	49	12.76	43.3
16	GLEICHEN	2952	— 49	99	22	0	79	50	14.75	47.9
17	HANNA	2677	— 50	102	17	— 1	78	51	12.45	31.3
18	HIGH RIVER	3800	— 49	99	29	5	77	44	20.50	77.6
19	HILLSDOWN	2940	— 52	101	21	0	74	48	17.16	54.1
20	HILLSPRING	4000	---	---	---	---	---	---	22.09	98.8
21	JASPER	3480	— 51	98	22	4	74	45	14.31	42.2
22	JENNER	2480	— 56	105	18	— 4	82	51	12.27	37.3
23	LACOMBE	2783	— 49	100	21	— 4	77	47	18.17	46.9
24	LAKE LOUISE	5032	— 63	94	19	— 7	71	37	26.98	163.6
25	LETHBRIDGE	2980	— 45	102	28	8	80	51	16.74	60.0
26	LLOYDMINSTER	2125	— 51	100	---	---	78	51	---	---
27	LUNDBRECK	3918	— 52	114	28	3	78	41	18.46	79.3
28	MCMURRAY	1216	— 60	102	4	— 17	76	47	16.32	47.2
29	MEDICINE HAT	2185	— 49	106	24	4	85	56	13.55	41.6
30	NORDEGG	4300	— 53	91	21	2	69	41	21.75	84.2
31	OLDS	3413	— 46	99	23	2	74	48	17.56	50.4
32	PEKISKO	4721	— 52	95	28	5	72	40	24.02	94.2
33	PINCHER CREEK	3758	— 44	96	28	10	77	48	20.99	82.9
34	RANFURLY	2250	— 55	105	15	— 6	77	49	---	---
35	ROCKY MOUNTAIN HOUSE	3300	---	---	---	---	---	---	19.67	55.3
36	SION	2315	---	---	---	---	---	---	16.55	57.2
37	SLAVE LAKE	1905	— 55	94	12	— 6	73	49	18.15	57.6
38	SPRINGDALE	3000	— 66	95	21	— 5	73	44	19.94	58.6
39	STETTLER	2700	— 52	100	20	0	76	49	16.26	43.9
40	STRATHMORE	3160	— 49	98	22	0	77	49	14.70	35.0
41	THREE HILLS	2075	— 61	105	15	— 7	76	48	15.26	40.2
42	THORHILD	2936	— 55	104	20	— 5	79	46	14.35	30.5
43	VAUXHALL	2555	— 49	105	24	2	81	51	12.34	31.5
44	VIKING	2230	— 69	103	14	— 6	77	48	19.94	35.6
45	WASTINA	2430	— 54	104	14	— 9	80	49	---	---
46	WETASKIWIN	2480	— 53	99	19	— 2	76	48	17.44	53.0

PRECIPITATION, AND FROST DATA, ALBERTA WEATHER STATIONS

FROST DATA

MEAN MONTHLY TOTAL PRECIP.				PERIOD (YRS)	MEAN DATE		FROST-FREE PERIOD			
APRIL	MAY	JUNE	JULY		LAST IN SPRING	FIRST IN FALL	MEAN (DAYS)	LONGEST (DAYS)	SHORTEST (DAYS)	
1.03	1.57	2.73	2.53	43	JUN. 5	AUG. 26	82	124	*	1
0.73	1.75	2.52	2.87	29	JUN. 19	AUG. 17	59	87	*	2
1.12	1.65	2.59	1.61	54	JUN. 4	AUG. 16	73	96	*	3
0.82	1.50	2.01	2.31	38	MAY 30	SEP. 1	94	140	*	4
--	--	--	--	34	MAY 22	SEP. 19	120	161	86	5
1.26	1.94	3.48	2.41	46	JUN. 3	SEP. 3	92	127	43	6
1.20	2.04	3.05	3.13	35	JUN. 8	AUG. 27	80	138	36	7
0.97	1.95	2.85	2.50	38	JUN. 18	AUG. 22	65	94	*	8
1.14	2.33	3.52	1.69	35	MAY 30	SEP. 10	103	150	57	9
1.10	1.82	2.97	3.11	60	MAY 29	SEP. 6	100	144	44	10
1.05	1.82	3.34	3.53	35	JUN. 1	AUG. 19	59	127	*	11
0.86	1.33	2.88	2.53	32	JUN. 15	AUG. 18	64	103	*	12
1.15	1.99	3.07	2.76	32	JUN. 29	AUG. 10	42	75	*	13
1.01	2.37	3.43	1.80	53	MAY 21	SEP. 16	118	165	49	14
0.61	1.36	1.67	1.87	41	JUN. 13	AUG. 17	65	104	*	15
1.14	1.66	2.44	2.07	45	MAY 29	SEP. 9	101	152	51	16
0.81	1.41	2.58	2.20	25	MAY 25	SEP. 5	103	149	*	17
1.76	2.16	3.87	2.06	39	JUN. 15	AUG. 12	58	108	*	18
1.27	1.64	2.96	2.65	46	JUN. 2	AUG. 30	89	130	*	19
1.97	2.48	3.95	1.66	16	JUN. 4	SEP. 7	95	135	*	20
0.69	1.12	1.69	1.87	33	JUN. 12	AUG. 24	73	128	*	21
0.92	1.49	1.93	1.29	32	MAY 31	SEP. 12	104	151	68	22
1.33	1.94	3.19	2.96	43	JUN. 9	AUG. 26	78	138	*	23
1.60	1.75	2.39	1.79	34	JUL. 10	JUL. 21	11	58	54	24
1.34	2.07	2.92	1.69	26	MAY 25	SEP. 13	111	147	*	25
--	1.19	2.23	2.28	38	JUN. 3	AUG. 31	89	138	*	26
1.24	2.08	3.57	1.87	36	JUL. 2	AUG. 1	30	86	68	27
0.77	1.39	2.11	3.08	27	JUN. 16	AUG. 22	67	101	33	28
0.99	1.53	2.28	1.38	55	MAY 15	SEP. 18	126	152	98	29
1.34	2.16	4.33	3.17	29	JUN. 30	AUG. 2	33	98	*	30
1.22	1.95	3.31	2.61	35	JUN. 2	SEP. 8	97	150	49	31
1.93	2.79	4.50	2.00	40	JUN. 29	AUG. 4	36	100	*	32
1.55	2.41	4.04	1.72	48	JUN. 1	SEP. 7	98	141	*	33
--	--	--	--	45	JUN. 1	AUG. 31	91	144	47	34
1.13	1.80	3.86	2.86	22	JUN. 24	AUG. 4	90	90	*	35
0.82	1.57	2.88	3.20	36	JUN. 15	AUG. 24	70	133	*	36
0.91	1.72	2.38	2.87	26	JUN. 9	AUG. 26	78	124	*	37
1.43	2.08	3.32	3.34	37	JUN. 23	AUG. 10	48	93	*	38
1.10	1.64	3.14	2.80	32	MAY 26	SEP. 3	100	155	*	39
1.02	1.77	3.14	1.99	35	MAY 28	SEP. 9	104	149	53	40
0.74	1.76	2.65	2.65	39	JUN. 13	AUG. 21	69	112	*	41
0.84	1.63	3.02	2.16	26	JUN. 12	AUG. 21	70	115	*	42
0.84	1.62	2.08	1.62	32	MAY 27	SEP. 13	109	144	63	43
0.85	1.55	2.50	2.70	26	JUN. 3	SEP. 1	90	144	40	44
0.63	1.23	2.44	2.06	33	JUN. 7	AUG. 28	82	124	39	45
1.26	1.72	2.88	2.93	43	MAY 31	SEP. 3	95	137	38	46

* INDICATES LESS THAN 31 DAYS.

JULY 15TH IS ARBITRARILY TAKEN AS THE CRITICAL DATE BETWEEN SPRING AND FALL FROSTS.

The permanent agricultural settlements in the Peace River district, the farthest north inhabited area of its kind in Canada, indicate the suitability of Alberta's climate for agriculture. As one moves southward through the province, he becomes increasingly conscious of the favourable blend of long hours of sunshine, a sufficient number of frost-free days and adequate as well as timely precipitation, all of which have contributed to the success of the agricultural industry of Alberta.



ALBERTA GOVERNMENT PHOTOGRAPH

The multi-million dollar Canadian Chemical Company Limited, Edmonton plant produces organic chemicals and textile fibres. Completed in 1953, the plant employs approximately 800 men and women.



ALBERTA GOVERNMENT PHOTOGRAPH

Sugar beet Refinery at Taber. Note the huge stockpile of sugar beets in the left foreground.

SURVEY OF PRODUCTION

The past ten years have witnessed important changes in Alberta's production pattern. These changes have taken place rapidly; the productive base has altered immensely. For almost fifty years this province has been regarded primarily as a producer of agricultural products. However, the growth in manufacturing, mineral production and construction has revolutionized the productive structure of the province. Relatively more reliance is placed on processing and mining industries at present than in the past. Upon this broader deployment of resources depends the general economic well-being of the province.

The net value of production is the measure of the "value added" by each industry to the total value of production. Agriculture, mining, trapping, fishing and the generation of electricity are primary industries; manufacturing and construction the secondary industries. The figures are useful in comparisons of major industries since they rule out duplication within or between industries. The measure is obtained by deducting the cost of materials, fuel, electricity, and supplies consumed in the production process, from the total value of output. For example, the lumber produced by a saw-mill becomes the raw material for a planing mill. The planing mill in turn processes it and ships it to a sash and door factory where the dressed lumber becomes windows and doors. Net value of production figures measure only the "value added" at each stage and enable the reader to assess more accurately the contribution of each industry to the total.

In dollars, the total net value of production for Alberta reached \$1,484.5 million by 1956, a 321 per cent gain over the 1946 figure of \$462.4 million. In the prewar years the agricultural industry contributed more than 60 per cent to the total net value of production. Even as late as 1948 industry's contribution amounted to over half of the total. Since 1948 there has been a rapid change in the relative importance of agriculture although the absolute value of agricultural production has not changed substantially. The factor responsible for this situation has been the rapid development of the mining and secondary industries. In 1946 the net value of agricultural production totalled \$248.8 million (53.8 per cent of the total); in 1956 the value was \$368 million (25 per cent of the total). On the other hand the contribution of the mining industry rose from \$47.6 million in 1946 to \$382 million in 1956, or from 10.3 per cent to 26 per cent. The construction industry has followed the same pattern, rising from 14.1 per cent of the total in 1946 to 28 per cent in 1956. Development of a manufacturing complex has paralleled the growth of other industries. Net value of manufacturing has increased from \$83.7 million in 1946 to \$249 million in 1956; it contributed about 19 per cent of the total in both years.

The important feature of the rapid industrialization and diversification, reflected in the net value figures, has been the new element of stability in the Alberta economy. Historically the prosperity of Albertans has hinged on the prosperity of the agricultural sector of the economy, and on foreign markets. With the income producing base broadened, the economy of the province is less susceptible to violent fluctuations. This was borne out in 1953/1954 when the value added by agricultural production fell from \$417.9 million to \$298.6 million, the lowest point since 1947. In a less diversified economy, this might have spelled a very serious decline in the general business activity. However, the decline in agricultural production was counteracted by substantial increases in the value of production of the mining and secondary industries. With more people directly dependent on these industries the impact of the lowered returns from agriculture was not severe on the economy as a whole. Although agricultural production fell by nearly \$120 million, total net value of production only fell off by \$53 million.

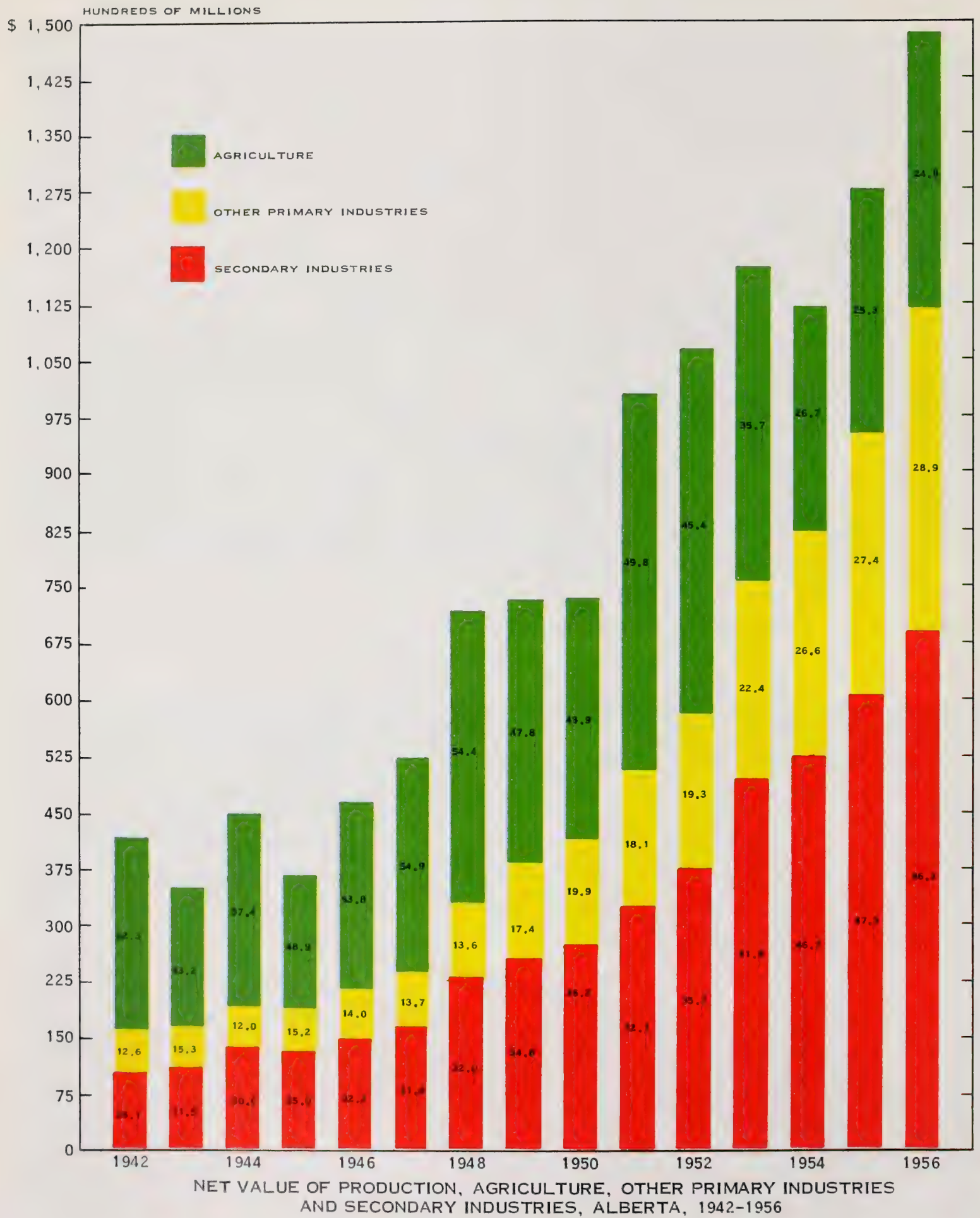
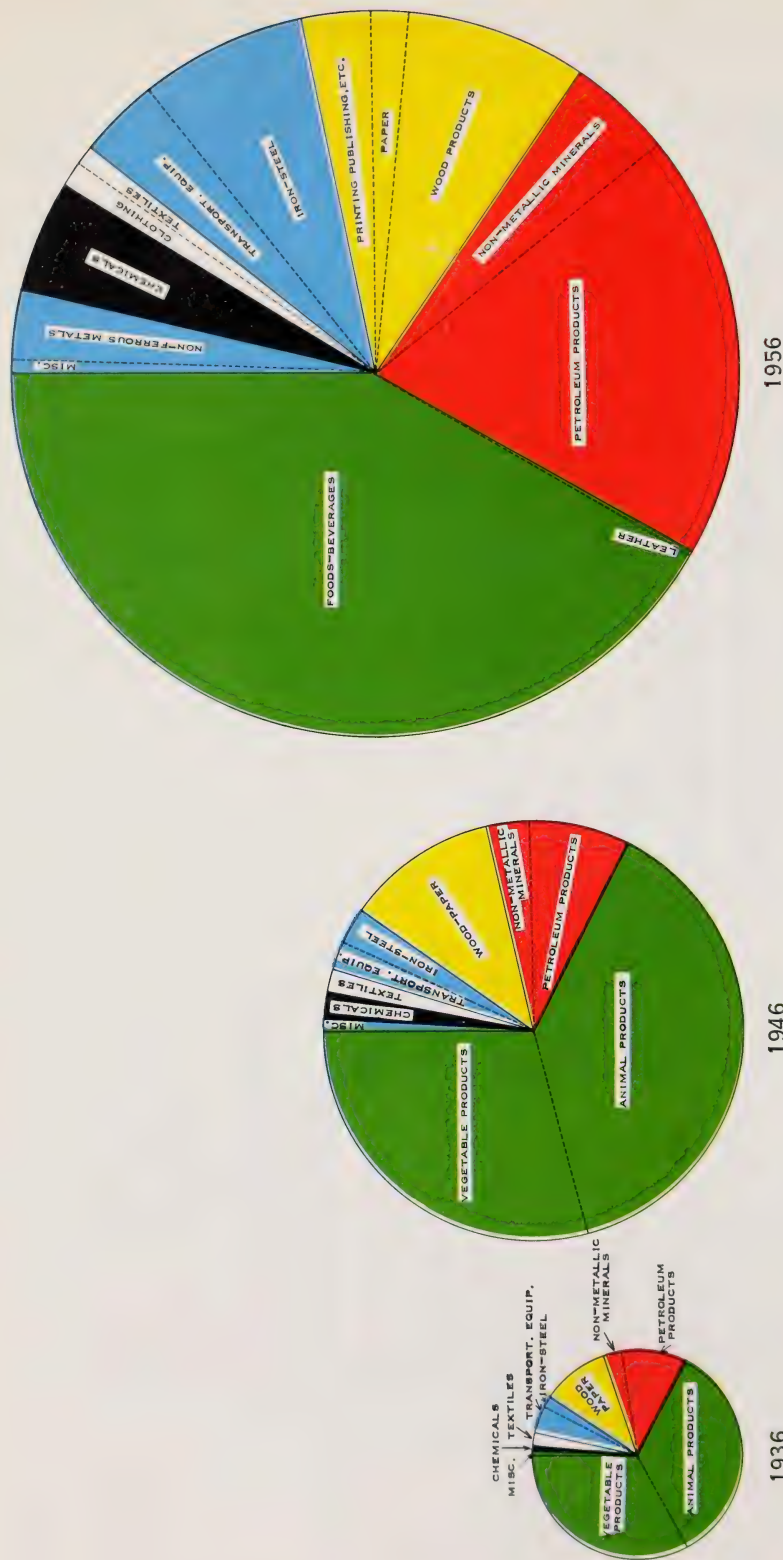


TABLE 2. NET VALUE OF PRODUCTION -AND- PER CAPITA NET VALUE OF PRODUCTION
CANADA, PRAIRIE PROVINCES AND ALBERTA, 1946- 1955

NET VALUE OF PRODUCTION			PER CAPITA NET VALUE OF PRODUCTION		
CANADA	PRAIRIE PROVINCES	ALBERTA	CANADA	PRAIRIE PROVINCES	ALBERTA
\$	\$	\$	\$	\$	\$
1946 - 6,580,934,000	1,227,668,000	462,401,000	535	520	576
1947 - 7,792,979,000	1,366,629,000	520,562,000	621	569	631
1948 - 9,508,667,000	1,851,917,000	715,843,000	742	760	838
1949 - 9,990,398,000	1,853,983,000	731,034,000	743	749	826
1950 - 10,757,666,000	1,764,914,000	734,148,000	785	702	804
1951 - 13,249,469,000	2,469,863,000	1,003,419,000	946	970	1069
1952 - 13,804,980,000	2,607,547,000	1,060,252,000	955	998	1090
1953 - 14,588,095,000	2,629,873,000	1,170,743,000	983	981	1157
1954 - 14,177,499,000	2,262,385,000	1,117,693,000	927	822	1057
1955 - 15,838,050,000	2,658,796,000	1,273,176,000	1009	947	1167

TABLE 3. NET VALUE OF PRODUCTION, BY INDUSTRIES, ALBERTA, 1947 - 1956

	1947		1948		1949		1950		1951	
	\$'000	%	\$'000	%	\$'000	%	\$'000	%	\$'000	%
AGRICULTURE	286,080	54.9	389,090	54.4	349,455	47.8	322,320	43.9	500,210	49.8
FORESTRY	4,537	0.9	6,675	0.9	5,862	0.8	7,204	1.0	10,151	1.0
FISHERIES	449	0.1	375	0.1	342	0.1	437	0.1	544	0.0
TRAPPING	1,538	0.3	2,702	0.4	1,927	0.3	1,889	0.2	2,531	0.3
MINING	54,960	10.5	76,930	10.7	106,806	14.6	122,542	16.7	151,554	15.1
ELECTRIC POWER	9,708	1.9	10,947	1.5	11,961	1.6	13,863	1.9	16,591	1.7
MANUFACTURING	89,290	17.2	107,124	15.0	114,681	15.7	123,893	16.9	141,650	14.1
CONSTRUCTION	74,000	14.2	122,000	17.0	140,000	19.1	142,000	19.3	180,188	18.0
TOTAL -----	520,562	100.0	715,843	100.0	731,034	100.0	734,148	100.0	1,003,419	100.0
	1952		1953		1954		1955		1956	
	\$'000	%	\$'000	%	\$'000	%	\$'000	%	\$'000	%
AGRICULTURE	481,649	45.4	417,895	35.7	298,657	26.7	322,215	25.3	368,000	24.8
FORESTRY	11,698	1.1	9,777	0.8	12,057	1.1	13,163	1.0	12,500	.8
FISHERIES	654	0.1	667	0.1	667	0.1	688	0.1	810	.1
TRAPPING	1,766	0.2	1,617	0.2	1,080	0.1	2,078	0.2	1,400	.1
MINING	171,120	16.1	227,332	19.4	257,385	23.0	303,752	23.8	382,400	25.7
ELECTRIC POWER	19,522	1.8	22,414	1.9	25,622	2.3	28,858	2.3	32,000	2.2
MANUFACTURING	178,221	16.8	199,661	17.0	219,327	19.6	263,309	20.7	279,200	18.8
CONSTRUCTION	195,622	18.5	291,380	24.9	302,898	27.1	339,113	26.6	408,219	27.5
TOTAL -----	1,060,252	100.0	1,170,743	100.0	1,117,693	100.0	1,273,176	100.0	1,484,529	100.0



GROSS VALUE OF PRODUCTION, MANUFACTURING INDUSTRIES,
PERCENTAGE COMPARISON BY INDUSTRY AND PROPORTIONAL COMPARISON OF GROWTH
ALBERTA, 1936, 1946 AND 1956

MANUFACTURING INDUSTRIES

Production of Alberta manufacturing industries trebled in the decade 1936-1946 and trebled again in the decade 1946-1956. The range and variety of goods produced was broadened. Industries of minor importance in 1936, became major industries of the province by 1956. While the value of manufactures based on local agricultural products increased six-fold in the 20 years, the relative importance of such goods fell from 67 per cent to 42 per cent of the total. With the term "petro-chemical industry" as yet uncoined in 1936, the value of the industry in the province was negligible. By 1956 it was a well established industry, and earnest examination of markets and new types of products, both primary and secondary, was making further expansion inevitable.

The increase in population in the area west of the Great Lakes since 1936 amounts to nearly 1.34 million persons, with over 1,000,000 of the increase in the last decade. The 1958 population of the four western provinces is 4,503,000 as compared with 3,160,000 in 1936. There is a growing realization that a market of this size is capable of supporting many local manufacturing plants.

As outlined in the table below imports into the four western provinces in 1956 exceeded \$1 billion. A high percentage of these imports were manufactured goods. When to these imports from foreign sources are added the imports into the area from eastern Canada a measure of the size of the potential market for local manufactures can be estimated.

Imports Entered at Customs Ports - Four Western Provinces, 1956

	Manitoba \$'000	Saskatch- ewan \$'000	Alberta \$'000	British Columbia \$'000	TOTAL \$'000
Agricultural & Vegetable Products: ...	24,911	7,914	14,082	84,661	131,568
Animals & Animal Products:	4,500	445	1,723	15,910	22,578
Textiles & Textile Products:	12,148	1,872	4,505	22,263	40,788
Wood & Paper Products:	7,562	2,996	6,438	21,900	38,896
Iron and Products:	77,281	80,896	173,748	228,924	560,849
Non-Ferrous Metals & Products:	7,518	3,739	8,753	46,102	66,112
Non-Metallic Minerals & Products: ...	10,872	2,814	6,938	40,816	61,440
Chemicals & Allied Products:	5,683	1,735	7,823	19,767	35,008
Miscellaneous:	25,417	10,209	36,107	48,553	120,286
TOTAL:	175,893	112,620	260,116	528,894	1,077,523

"Protected" as the area is by a high railway freight tariff barrier on goods entering for consumption, the possibility of manufacture of individual items is well worth investigating further.

The range of raw materials and partially processed materials has increased. Oil seed plants have been introduced and adapted to Alberta conditions. Tanned leathers are now available locally. Synthetic fibres and wools produced in Alberta can be further manufactured. New wood by-products, paper, and pulp mills, have been established on which to base further industries. A primary steel producing plant has been established and is being expanded. A large non-ferrous metal smelter is in full production. The construction industry has stimulated the growth and range of products of the non-metallics industry. Alberta's petroleum products plants in range and volume of products now make this the second ranking industry of the province. The chemical industry, practically negligible twenty, or even ten, years ago, and based largely on local raw materials has developed to the point where it is rapidly becoming a firm base for more secondary industries.

The Alberta industrial plant by 1957 was producing goods to a total gross value of \$3/4 billion. The products manufactured were still largely for local consumption. But whereas in 1936 only the meat packing plants and flour mills were producing for export, by 1956/57 synthetic textiles, clothing, wood pulp, some iron and steel, most of the non-ferrous metals and many of the chemicals were being exported from the province.

Principal Statistics - Manufacturing Industries - Alberta
(1936, 1946, 1956, 1957)

Year	Firms No.	Employees No.	Salaries & Wages \$	Cost of Materials. \$	Gross Value of Products \$
1936	905	11,756	12,328,471	47,684,029	74,052,010
1946	1,315	22,649	34,939,088	169,425,176	257,031,867
1956	1,971	37,571	120,166,000	412,141,000	703,184,000
1957	1,893	39,089	137,077,438	461,134,040	784,480,512

In twenty years employment in manufacturing has more than tripled. Salaries and wages and value of goods produced has increased ten-fold. The charts opposite show both the increases by decades, and the changing complex of the manufacturing plant.

Since 1946 over 260 manufacturing plants have begun operations in the province. These range in size from the Canadian Chemical Company Limited plant down to small wood cabinet manufacturers. Below is shown the distribution of new plants by location, industrial type, and year of construction.

New Manufacturing Plants - Alberta, 1946-1957
(By Type and By Location)

Location:	Total	Foods and Beverages	Leather Products	Textiles	Wood Products	Paper Products	Iron and Steel Products	Transportation Equipment	Non-ferrous Metal Products	Electrical Apparatus, etc.	Non-metallic Mineral Products	Petroleum and Coal Products	Chemicals and Allied Products
Calgary	87	9	3	5	15	6	21	1	2	3	13	-	9
Edmonton	95	10	1	5	8	2	31	3	4	-	13	4	14
Lethbridge	19	4	-	1	3	1	3	-	1	1	4	-	1
Medicine Hat	5	-	-	-	-	-	-	-	-	-	3	-	2
Other	52	12	-	1	7	1	2	-	1	1	6	19	2
	258	35	4	12	33	10	57	4	8	5	39	23	28

New Manufacturing Plants - Alberta, 1946-1957
(By Year of Construction Commencing and By Location)

Location:	Total	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Calgary	87	11	4	1	4	2	3	5	19	17	14	4	3
Edmonton	95	1	8	4	5	2	11	12	14	8	16	6	8
Lethbridge	19	1	1	1	-	-	1	-	1	7	2	3	2
Medicine Hat	5	-	1	-	-	1	-	-	1	-	1	-	1
Other	52	1	5	2	2	6	7	3	7	4	11	2	2
	258	14	19	8	11	11	22	20	42	36	44	15	16

Edmonton and Calgary areas attracted three-quarters of the total number but another fifth (or 52) of the plants were well dispersed over the length and breadth of the province. Lethbridge and Medicine Hat attracted the remainder. The relative success of Lethbridge in the four years ending 1957 is particularly noteworthy as an indication both of the growth of that centre in manufacturing and of the general dispersal of industry.

Other provincial points drew a total of fifty-two new firms. As might be expected a quarter of these were in the foods industry, although one of the more important wood products industries is the pulp mill at Hinton. Of the twenty-three petroleum and coal product plants established since 1946, nineteen are scattered throughout the province. These have been constructed at a rate of two per year.

The greatest number of new firms are iron and steel fabricators. As might be expected most of the larger plants produce materials needed for the construction and for the oil industry. More than twenty of these plants began operations in Calgary; more than thirty in Edmonton. These facts do not in themselves give an indication of the growth and diversification which has taken place in this industry; many firms already established by 1946 significantly expanded both plant and operations since.

Thirty-nine firms established plants for processing non-metallic materials. These are mostly cement and cement product manufacturers called into being in response to the development of the construction industry. Others manufacture products of gypsum, lime, and clay; and there has been further diversification of the pottery and glass making industries of Medicine Hat. This industry has also been growing steadily each year since 1946 with an average of three new firms annually for the whole period and nearly five annually since 1952.

The largest industrial group in Alberta is that processing foods and beverages. It is not surprising therefore that a large proportion of the new plants constructed are to be found in this group. Perhaps even more significant is that fact that the majority were of considerable initial capital cost.

Below are shown the new industries proposed, by type and by year. Actual start of production of each plant was from one to three years later. For example the wave of industrial building announced in the period 1953-55 made for new manufacturing records over the period 1955-58.

New Manufacturing Plants - Alberta, 1946-1957
(By Year of Construction Commencing and By Type of Industry)

Year	Total	Foods and Beverages	Leather Products	Textiles	Wood Products (excl. sawmills)	Paper Products	Iron and Steel Products	Transportation Equipment	Non-ferrous Metal Products	Electrical Apparatus, etc.	Non-metallic Mineral Products	Petroleum and Coal Products	Chemicals and Allied Products
1946	14	6	-	1	-	1	4	-	-	-	2	-	-
1947	19	3	-	1	3	-	2	-	-	-	4	2	4
1948	8	1	-	1	-	-	4	-	-	-	-	2	-
1949	11	1	1	2	-	1	1	-	-	-	3	2	-
1950	11	4	-	-	-	-	1	-	-	-	2	2	2
1951	22	1	-	3	2	1	4	-	2	1	2	3	3
1952	20	3	1	-	1	1	5	1	1	1	4	-	2
1953	42	6	-	-	9	2	8	1	1	2	6	4	3
1954	36	2	1	1	7	-	9	1	2	-	8	2	3
1955	44	3	-	2	7	4	12	-	-	-	4	4	8
1956	15	2	1	-	4	-	3	-	-	-	4	-	1
1957	16	3	-	1	-	-	4	1	2	1	-	2	2
	258	35	4	12	33	10	57	4	8	5	39	23	28

Industrial complexes only develop over a period of years. However large the consumption of a given article in an area it will not and can not be manufactured until the supporting base industries are developed. For instance it would not be possible to set up, economically, an automobile assembly plant in Alberta. Practically every item going into the assemblage would have to be manufactured elsewhere and separately imported. Before automobiles could be manufactured in this part of Canada a host of other related industries, dependent on other selected products, would have to become well established first.

Conversely each new industry, particularly if it be a "base industry", established makes economically feasible a host of other industries. A few examples can illustrate the point. The chemical plant in Edmonton provides the raw materials for separate phenolic resin plants. The industrial glues produced make more economic the plywood and chipboard plants of the area. These in turn are reducing furniture making costs. The chemical plant itself utilizes by-products of neighbouring oil refineries.

Refinery and absorption plant by-products are processed by another chemical plant into polythene flake. Other plants take the polythene flake and produce plastic pipe, pliofilm for modern packaging, and plastic awnings.

Gas absorption plants, which also extract sulphur, made possible a sulphuric acid plant, which in turn is used by the nickle leaching plant, by the chemical plants, and by the pulp plant.

Completion of the steel plant made possible the manufacture of sucker rods for the oil industry, and grader blades for the road construction industry.

Similarly, just as development of new varieties of wheat in the late 1890's made possible the wheat growing industry of western Canada, and in turn flour milling and production of breakfast foods, and just as the development of irrigation networks in southern Alberta made possible the growing of sugar beets, and the sugar refining industry, the introduction of new oil seed plants is apparently making possible construction of a plant for production of edible and inedible oils. This in turn may lead to a further industrial complex.

In a later section is given a list of products manufactured and materials used in Alberta manufacturing plants. Study of this list should give further ideas for new industrial possibilities, either for production of base materials or for further processing or assembling.

The chemical industry of the province now produces a range of basic chemicals. Chemicals, using the word in this context as a single commodity, and industries which use them in the manufacture or processing of other goods, both capital and consumer, form a pattern which embraces the larger part of Canada's productive economy. Set out below are the major industries and a selection of the chemicals used in production.

Coke and gas — Caustic soda, sulphuric acid (100%), soda ash:

Compressed gases — Caustic soda, acetone:

Dyeing and finishing, textiles — Caustic soda, chlorine, aluminum sulphate, hydrochloric acid:

Foods, miscellaneous — Caustic soda, sulphur, glycerine (in manufactured foods), citric acid:

Medical and pharmaceutical — Caustic soda, sulphur, glycerine, salt cake, hydrochloric acid, acetone, phenol, citric acid, chlorine:

Mining and smelting — Caustic soda, sulphuric acid, soda ash, chlorine, salt cake, hydrochloric acid:

Petroleum refining — Caustic soda, sulphuric acid, sulphur, soda ash, phenol:

Pulp and Paper — Caustic soda, sulphuric acid, sulphur, soda ash, chlorine, titanium dioxide and TiO_2 pigments, aluminum sulphate, glycerine, salt cake, carbon black, hydrochloric acid, lithopone:

Soaps, etc. — Caustic soda, sulphuric acid, soda ash, chlorine, aluminum sulphate, glycerine, salt cake, hydrochloric acid:

Sugar refining, starch and glucose — Caustic soda, sulphuric acid, sulphur, soda ash, chlorine, formaldehyde, hydrochloric acid:

Textiles (manufacture) — Caustic soda, sulphuric acid, chlorine, titanium dioxide and pigments, zinc oxide, acetone:

Toilet preparations — Caustic soda, soda ash, glycerine, zinc oxide:

Vegetable oils — Caustic soda, sulphuric acid, soda ash, pentaerythritol:

Iron and Steel — Sulphuric acid, sulphur, hydrochloric acid:

Leather tanning — Sulphuric acid, soda ash, aluminum sulphate, formaldehyde, glycerine, hydrochloric acid, zinc oxide, lithopone:

Fruit and vegetable preparations — Sulphur, citric acid:

Matches — Sulphur, zinc oxide:

Rubber goods — Sulphur, titanium dioxide and pigments, carbon black, zinc oxide:

Glass — Soda ash, salt cake:

Waterworks — Soda ash, chlorine, aluminum sulphate:

Plastics — Caustic soda, sulphuric acid, chlorine, formaldehyde, glycerine, hydrochloric acid, phenol, pentaerythritol:

Paints and pigments — Titanium dioxide, formaldehyde, glycerine, carbon black, zinc oxide, acetone, lithopone, pentaerythritol:

Polishes and dressings — Titanium dioxide, glycerine, carbon black, zinc oxide, lithopone:

NEW INDUSTRIES:

In 1956 Alberta imported from foreign countries over \$260 million of goods. In addition a great range and volume of goods were imported from the other provinces. As no customs barriers have to be crossed in the latter case it is impossible to calculate accurately the dollar value of specific items. However, it is possible to carry out market surveys on specific items and some new products are now locally produced after such surveys.

In a later section are listed some selected items of foreign imports, many of which might be manufactured in Alberta. In order to establish reasonable trends, comparable figures for 1952-1957 are shown. These are minimum figures. Shipments cleared at Alberta customs' ports are not trans-shipped to other provinces, but foreign goods destined for Alberta may well be bulk broken at ports such as Montreal or Vancouver and sent on to Alberta. For some "basket" items (those marked n.e.s. or n.o.p.) a further detailed breakdown can sometimes be made available.

There is no readily apparent reason why such items as bone dust, charred bone and bone ash to a value of \$20,000, or meat pies (frozen) to a value of \$28,000, or building and insulating board worth \$515,000, or wire roofing nails worth \$24,000, or a considerable portion of a \$56,000,000 item consisting of oil industry supplies, or earthenware tiles worth \$131,000, or glass balls and marbles for further manufacture worth \$28,000, or asphalt worth \$227,000, or silica sand worth \$222,000, should have to be imported.

It is economic commonsense to determine to manufacture locally whatever can be manufactured economically. A great many consumer items are manufactured elsewhere for the best of economic reasons. A considerable number could now be locally manufactured. The Alberta, or the prairie, market has grown and developed to the point where it can now support a wider variety of plants and operations. In many cases only lack of market potential has delayed construction of new plants. In other cases ingrained habit has kept purchasing agents dependent on long established supply lines, and in still others, manufacturers feel that as the area is a "tied" market, long accustomed to paying freight charges as well as agents' profits, that there has been no necessity to establish plants in western Canada. The typical examples shown elsewhere should indicate to businessmen the sales or manufacturing opportunities now ripe for aggressive action, especially bearing in mind that minimum market figures only are shown.

The figures shown in the sections listing materials used, and products made, by Alberta manufacturers, can give a similar spur to action to develop new industrial opportunities based on products or materials already semi-processed, or which could be prepared for use in service to existing industry.

Apparent net imports and exports of raw and finished products are compiled from railway traffic reports. Although these figures deal with tonnages only — not values — they provide valuable clues to interested parties.

A project was undertaken by the Alberta Bureau of Statistics in 1954 to determine production, import, export and consumption figures. While a good deal of estimation was involved, particularly for the consumption figures, the project summary is being shown to serve as a general guide for market researchers.

PETRO CHEMICALS:

A chemical industry is evolving gradually in the province. Production was negligible before the war. It exceeded \$40 million by 1957. Further growth will be stimulated by the tremendous existing reserves of petroleum fractions and of a wide range of coals. It will be handicapped by distance from the major population centres of America, Europe, and Asia, and by transportation costs to these centres.

Market research economists feel that chemicals and chemical products will be produced in Alberta if ratio of cost of raw materials to finished products plus transportation is high. Conversely where transportation and labour costs rank high in total unit costs of the finished item the likelihood is that the manufacturing plant for items of this type will be situated close to major markets. The key factor is obviously transportation costs of raw versus finished products.

Accordingly the chemical industrial field has to be reviewed frequently in the wake of changing conditions. Alterations in railway freight and trucking rates; completion of the St. Lawrence seaway to bring the closest Canadian port to the head of the lakes, thus eliminating expensive rail hauls; reductions in tariff rates particularly by the United States; increases in western Canada's total market population; development or extension of mining and refining industries in northern Canada; the desirability of having Canadian industry dispersed with alternative supply sources in event of national emergency — all these factors have a bearing on the feasibility of further chemical industry development.

An additional factor to keep under constant scrutiny is the evolution of industry itself. Introduction of new plants and new products makes possible whole ranges of secondary and tertiary plants and products. Just as the polythene plant made possible local manufacture of plastic pipe and pliofilm products so introduction of, say, a polymer-butadienne plant would make possible a range of rubber product plants not now economically feasible to consider.

Of the presently estimated Canadian reserves of hydrocarbons, Alberta holds 81 per cent of the natural gas; 80 per cent of the liquified petroleum gases; and 86 per cent of crude petroleum. The estimates of the crude oil reserves of the oil sands exceed 100 billion barrels and have been estimated as high as 300 billion barrels — totals greater than the known combined crude oil reserves of the rest of the world. It is obvious that a petro chemical industry based on these combined reserves will, for practical purposes, have unlimited supplies on which to draw for the foreseeable future. Accordingly there need be no hesitation on the score of raw materials.

A listing of the many consumer items which can be manufactured by further processing would be futile. The range and variety of plastic products may be grasped from a visit to any department store. New uses for plastics are evolved daily and replace "natural" materials freely. The range of non-plastics (anti-freezes, detergents, larvacides, etc.) is almost as extensive.

The chemical is the fastest growing industry of recent decades. All studies made on the subject indicate that it will be the fastest growing in the next quarter century as well.

INDUSTRIAL OPPORTUNITIES:

FOODS AND BEVERAGES:

During 1957 an estimated \$308 million of foodstuffs were manufactured in the province. While much of this production is for local consumption, some plants such as the sugar factories, the meat packing plants, the flour mills, have large export markets.

However, a tour through any large grocery establishment makes apparent the variety of foodstuffs which are imported. Many of these are sold in volume sufficient to permit economic manufacture in Alberta, or at least in western Canada.

LEATHER PRODUCTS:

Alberta's leather products industry is very small to date. A large tannery has recently been established in Edmonton and this should make possible a range of secondary industries. The quantity and quality of hides available guarantees a suitable and adequate raw material supply. Over two million pair of boots and shoes are consumed in the province annually. Add to this the gloves and mitts necessitated by climatic conditions and it is obvious that leather consumption is high. Expansion of industries manufacturing the above articles, plus plants for the manufacture of various leather novelties and handicrafts, should be possible in western Canada.

TEXTILE PRODUCTS:

The textile industry of Alberta is not very large as yet. One plant manufactures work clothes which can be sold successfully and competitively in all parts of Canada. A second produces synthetic fibres which are sent to foreign countries for weaving into cloth. The balance of the firms are small, by national standards. Gross value of manufactures of firms in this industry (1957) is estimated at around \$15 million.

Average family expenditure on clothing (exclusive of footwear) in Edmonton (1955) was estimated at \$319.00. If the figure be assumed to be representative of the 263,000 families of the province, total expenditures on clothing would be well over \$80 million. With well over a million families in the four western provinces, the clothing market must exceed \$325 million. Western Canada production supplies only a very small percentage of the total. Direct foreign imports of textiles in 1956

into the area were over \$41 million. Although labour costs in western Canada are presently higher than in many other regions there is undoubtedly room for a great deal of expansion of the industry.

Further expansion of synthetic textile manufactures is also to be expected especially as the petrochemical industry expands and new products are developed. The local supply of glass fibre makes possible manufacture of glass cloth, fabrics and drapes. Higher priced articles like these could be transported some distance to markets. Manufacture of insulation batts for the construction industry is also feasible from the glass fibre locally available.

WOOD PRODUCTS:

The value of manufactured products of this industry totalled over \$58 million in 1957. The bulk of this is accounted for by the sawmilling, lumber planing and wood pulp producing plants. Most of the furniture sold in the province is imported. Sales of furniture, appliances, and radio stores (1957) exceeded \$41 million — exclusive of the dollar value of such sales in department, hardware and general stores. Total imports into western Canada are large and there is no reason why a substantial proportion of the basic types of furniture can not be fabricated by local craftsmen. Such items as cabinets, desks, tables and chairs, chesterfields, lounge chairs, boats, for examples, can be manufactured with substantial savings in freight costs — and the quality can equal that of name brands.

In addition to furniture, the construction industry prospects for the foreseeable future make possible the establishment of more pulpboard and fibreboard plants in western Canada. The total of such foreign manufactured imports into the area west of the Great Lakes in 1956 exceeded \$4.1 million. In addition substantial quantities were shipped in from eastern Canada.

PAPER PRODUCTS:

Paper products to a value of \$13 million were manufactured in the province in 1957. The products range from cardboard containers, paper boxes, roofing papers, to wood pulp. Alberta stands of long-fibre wood suitable for pulp and paper are proving attractive to producers.

Apart from production of basic pulp or paper which will command and require an export market, production of other paper goods is almost a function of the population and type of industry within the market area of a given item. Accordingly this industry will expand in response to the growth of other industrial complexes.

PRINTING AND PUBLISHING:

In Alberta this industry comprises the firms publishing daily and weekly papers and the host of other firms offering various types of services to business. Few Alberta firms engage in publishing magazines; this is the one field not completely dependent on local population and type of business factors. Expansion in the industry will undoubtedly follow as a function of population and business growth.

IRON AND STEEL PRODUCTS:

In this industry there should be tremendous growth in western Canada and particularly in Alberta. The value of production of iron and steel products and of transportation equipment has expanded twenty-fold since 1936 and six-fold in the last decade. Consumption of the industry products has increased even more rapidly.

Imports into Alberta of iron and steel products from foreign sources totalled at least \$174 million in 1956; into western Canada, \$561 million.

Obviously the number of articles of iron and steel which could be fabricated locally is legion. On many major types of products local manufacturers are handicapped by the preference of many firms for "name" products despite the fact that the locally made products may be superior in quality and in adaptation to local conditions. Nevertheless the expansion which has taken place, in the last decade particularly, is solid indication that western manufacturers are winning their way into the western markets.

TABLE 4. IRON AND ITS PRODUCTS - IMPORTS FROM FOREIGN COUNTRIES
CLEARED AT CUSTOMS' PORTS IN WESTERN CANADA, 1956

	BRITISH COLUMBIA \$	ALBERTA \$	SASKATCH- EWAN \$	MANITOBA \$	TOTAL WESTERN CANADA \$
RAW IRON		620		1,474	2,094
PIGS, INGOTS, BLOOMS AND BILLETS	155,239			191	155,430
SCRAP IRON OR STEEL		877		18,020	18,897
CASTINGS AND FORGINGS	885,901	84,430	5,051	105,810	1,081,192
ROLLING MILL PRODUCTS, N.O.P. -					
BARS, INCLUDING RAILS	5,042,789	219,712	8,291	319,842	5,590,634
RODS	385,038	233,238	61,860	72,245	752,381
SHEETS, PLATES, HOOP, BAND AND STRIP	9,793,824	3,970,009	547,104	3,291,814	17,602,751
STRUCTURAL IRON OR STEEL	12,109,909	3,348,819	118,620	2,276,297	17,853,645
PIPES, TUBES AND FITTINGS	43,338,943	16,524,720	19,087,574	10,979,841	89,931,078
WIRE	4,698,536	925,114	144,327	232,558	6,000,535
CHAINS	1,010,191	176,199	62,172	166,210	1,414,772
ENGINES AND BOILERS	8,669,929	6,134,255	1,270,182	2,844,735	18,919,101
FARM IMPLEMENTS AND MACHINERY	62,125	133,977	84,722	469,416	750,240
HARVESTING IMPLEMENTS AND MACHINERY	76,318	1,123,563	1,190,210	1,831,032	4,221,123
PLANTING AND TILLAGE IMPLEMENTS	245,632	1,588,252	1,264,493	1,139,928	4,238,305
SEED SEPARATION MACHINERY	118,514	2,172,988	3,747,611	2,178,770	8,217,883
OTHER FARM MACHINERY AND IMPLEMENTS	27,012,338	26,884,139	22,305,845	16,288,546	92,490,868
HARDWARE AND CUTLERY -					
CUTLERY, IRON OR STEEL, PLATED OR NOT	414,008	124,611	58,686	179,684	776,989
BUTTS AND HINGES	110,593	36,807	12,514	15,260	175,174
NAILS, SPIKES, TACKS	1,080,905	25,423	5,541	126,187	1,238,056
NEEDLES AND PINS		13,368	2,269	22,621	38,258
SCREWS, NUTS, BOLTS AND RIVETS	364,924	187,540	52,639	127,220	732,323
OTHER HARDWARE	411,637	168,658	22,925	114,238	717,458
MACHINERY -					
HOUSEHOLD MACHINERY	1,687,089	685,538	109,868	949,552	3,432,047
MINING AND METALLURGICAL MACHINERY	4,058,119	57,941,641	13,529,673	2,085,599	77,615,032
OFFICE OR BUSINESS MACHINERY	540,339	148,759	76,419	195,279	960,796
PRINTING MACHINERY	1,346,729	335,408	178,284	1,545,212	3,405,633
OTHER MACHINERY, N.O.P.	52,054,440	25,901,043	7,777,634	14,674,687	100,407,804
SPRINGS	74,689	6,965	190	4,702	86,546
STAMPED AND COATED PRODUCTS	1,022,394	870,883	283,822	729,884	2,906,983
TOOL AND HAND IMPLEMENTS	2,270,118	1,925,238	284,397	907,472	5,387,225
VEHICLES	29,527,750	8,808,695	3,040,150	6,931,102	48,307,697
OTHER IRON AND PRODUCTS	17,946,063	13,046,712	5,563,055	6,456,061	43,011,891
COMMODITIES VALUED UNDER \$50,000	2,408,574				2,408,574
TOTAL	228,923,597	173,748,201	80,896,128	77,281,489	560,849,415

The table opposite is a sample list of articles imported into the four western provinces from foreign sources (which might well be produced locally instead). No estimates of western imports from central Canada are included in the figures.

No basic steel industry has yet been established. Iron deposits have been discovered in Alberta at Burmis in the Crowsnest Pass and at Notikewin in the Peace River district. Though these are not high grade ore they will undoubtedly be developed when local iron and steel requirements reach a certain point.

TRANSPORTATION EQUIPMENT:

At present this industry comprises mainly the railway equipment and aircraft repair shops at Calgary and Edmonton. Other plants are relatively small.

There appears to be a rapidly growing market for automobile and house trailers of all sizes. Partly this is a side development of the mobile elements of the oil and gas industry. Sales in recent years have approximated \$8 million annually.

With over a million cars and trucks in western Canada there should be a large market for automotive accessories, especially for those of a decorative nature. Special adaptations of trucking equipment should also be considered.

Another type of sale presently booming is that of boats of various types.

NON-FERROUS METALS:

Figures for this industry, as far as Alberta is concerned, are somewhat deceptive. The largest single plant in this category is the nickle refinery. The raw ore is brought in to Fort Saskatchewan. Almost all the refined metal is sent out of the province for further processing. Some brass and bronze is smelted and cast; white metals are prepared for the battery plants and other users. A small aluminum foundry produces a small range of products.

These industries can all expand considerably; some immediately in range of products, others as markets develop further.

Consumption of tin cans in Alberta is of the order of five million of all sizes. The southern Alberta canneries, the central Alberta creamery, and the lubricating oil plant in Edmonton are the major users. At present all cans for these major users, and for minor users, are freighted in empty. A related product is the bottle caps or crowns used by the soft drink and beer manufacturers — over one hundred and forty million of these are used annually and are valued at over \$500,000.

NON-METALLIC MINERALS:

This industry has grown rapidly for two reasons. The construction industry is the main market and has enjoyed more than a decade of unparalleled activity in this province. Equally important, many of the raw materials needed are present in abundance in the province. The locations, or sources of supply, of these raw materials have been outlined in the minerals section of this book.

In general, the brick and tile industry can expect more rapid expansion as the growing economic wealth of the province encourages or enables homebuilders to turn from wood frame to brick construction. The expanded clay type of building material also appears to be growing in favour and in range of applications. A more intensive investigation and inventory of the various clay deposits of the province may well lead to discovery of clays suitable for chinaware. In the meantime it is apparent that the existing chinaware industry can be further developed by more intensive advertising to make better known the fine quality of products presently being turned out.

The opportunity most apparent for immediate growth is in the glass industry. Suitable silica sand is available both for plate and sheet glass and for the manufacture of all types of glass fibre products.

TABLE 5. SELECTED IRON AND STEEL IMPORTS FROM FOREIGN COUNTRIES
CLEARED AT CUSTOMS' PORTS IN WESTERN CANADA, 1956

	BRITISH COLUMBIA \$	ALBERTA \$	SASKATCH- EWAN \$	MANITOBA \$	TOTAL WESTERN CANADA \$
WELDING RODS OR WELDING WIRES, OF ALL KINDS	246,808	233,238	61,860	72,245	614,151
SHEETS, PLATES, HOOP, BAND OR STRIP, HOT ROLLED NOT LESS THAN 5 CENTS PER LB., N.O.P.	5,483,764	1,826,444	303,212	1,573,024	9,186,444
SKELP OF IRON OR STEEL, NOT ROLLED, FOR PIPES AND TUBES, MORE THAN 14 INCHES IN WIDTH	-	940,006	-	-	940,006
PIPES AND TUBES, WROUGHT, WELDED OR SEAMLESS, MORE THAN 10 1/2 INCHES IN DIAMETER, N.O.P.	23,027,819	2,231,003	14,241,882	7,094,166	46,594,870
FITTINGS AND COUPLINGS FOR PIPES AND TUBES, N.O.P.	549,797	748,282	97,158	122,782	1,518,019
WIRE, BARBED FENCING	319,319	20,950	11,614	16,832	368,715
WIRE, TWISTED, BRAIDED OR STRANDED, INCLUDING WIRE ROPE OR CABLE, COATED OR NOT, N.O.P.	288,828	85,208	17,938	24,160	416,134
WIRE OF IRON OR STEEL, N.O.P.	374,810	377,778	13,126	7,387	773,101
BOILERS AND PARTS, N.O.P.	353,477	412,759	75,969	96,765	938,970
HARROWS AND PARTS, N.O.P.	-	51,361	44,491	44,295	140,147
TRACTORS, INTERNAL COMBUSTION	17,233,785	16,904,516	12,785,016	9,254,638	56,177,955
PEN-KNIVES, JACK-KNIVES AND POCKET-KNIVES	-	14,439	14,261	20,423	49,123
SPOONS	68,836	14,759	559	7,960	92,114
KNIVES, BUTCHER AND KITCHEN	66,987	11,834	10,872	16,732	106,425
WIRE ROOFING NAILS OF ALL SIZES AND WIRE NAILS, 1 INCH OR MORE IN LENGTH, OF IRON OR STEEL, COATED OR NOT	1,080,905	23,840	3,689	106,477	1,214,911
PINS MANUFACTURED FROM WIRE OF ANY METAL, N.O.P.	-	2,764	855	12,521	16,140
NUTS AND BOLTS WITH OR WITHOUT THREADS, WASHERS, RIVETS, OF IRON OR STEEL, COATED OR NOT, N.O.P. - NUT AND BOLT BLANKS	364,924	170,448	50,303	103,261	688,936
WELL-DRILLING MACHINERY AND APPARATUS, AND PARTS	652,514	56,034,090	13,246,262	1,594,890	71,527,756
AIR AND GAS COMPRESSING MACHINERY, N.O.P.	1,533,107	1,151,102	272,284	263,559	3,220,052
CONCRETE MIXING MACHINES, N.O.P. AND PARTS	226,040	111,430	30,646	103,213	471,329
SCRAPERS, RAILWAY OR ROAD	77,205	470,963	247,792	303,880	1,099,840
AIR-CONDITIONING APPARATUS AND PARTS, INCLUDING BLOWERS AND VENTILATING MACHINERY, N.O.P.	751,659	606,052	163,829	275,666	1,797,206
BASINS, CLOSETS, LAVATORIES, URINALS, SINKS, AND LAUNDRY TUBS, OF IRON OR STEEL, COATED OR NOT	241,792	85,173	51,814	87,976	466,755
HOLLOW-WARE, OF IRON OR STEEL, COATED WITH VITREOUS ENAMEL	-	21,235	7,716	84,584	113,535
HOLLOW-WARE, OF IRON OR STEEL, COATED OR NOT, N.O.P.	292,732	489,236	58,961	155,751	996,680
ANVILS AND VISES	54,813	35,543	6,220	13,678	110,254
WRENCHES	328,967	236,071	83,019	219,985	868,042
BOTTLES OR CYLINDERS OF STEEL, FOR GAS	198,635	97,156	28,371	95,749	419,911
DRUMS, CYLINDERS, BARRELS AND TANKS, N.O.P.	282,397	237,942	30,633	138,144	689,116
RAILWAY TIES, FISH-PLATES, SPLICE BARS, RAIL JOINTS, TIE-PLATES, OF IRON OR STEEL	942,661	12,884	104	17,742	973,391
LATH OF IRON OR STEEL	81,054	19,561	-	23,367	123,982
FURNACES, DOMESTIC, HOT AIR	1,033,093	831,575	252,096	158,002	2,274,766
WATER HEATERS, GAS	321,785	322,048	202,702	79,558	926,093

CHEMICALS & CHEMICAL PRODUCTS:

The gross value of products of this industry approximated \$42 million in 1957. Prior to the war, production was negligible and even ten years ago the only major plant was one which had been converted from production of ammonia to production of fertilizers. In the postwar boom of chemical production, and especially with the rapid development of new petro-chemical processes and products, Alberta has derived some benefit. Many of the basic raw materials for a thriving industry are present in practically unlimited quantities. Distance from major population centres has been the main factor inhibiting rapid and logical growth of the industry.

As stated earlier the freight rate structure has a decisive bearing on the types of chemical industries which can be expected. The comparative ratio of materials costs to products sales values has to be balanced against the comparative ratios of costs of shipment of raw chemicals to finished chemical products. Chemical products with a high raw chemical content and high sales values can be locally manufactured; transportation will be but a small fraction of the final selling price.

The present freight rate structure precludes local manufacture of many of the chemical products for which all the materials are abundant. Firms similarly located at a distance from large markets in, say, the U.S.A. have no similar handicaps to overcome. Albertans at the apex of the Canadian freight rate tariffs pay the maximum transport charges on imports; Alberta manufacturers pay maximum transport charges on goods exported. The fact is particularly important to the chemical and petro-chemical industry since costs of plant construction are relatively very high and necessitate both volume production and economic access to large markets. It is obvious that a close watch must be kept on any freight rate revisions to ascertain their possible effects on further developments. The costing line between economic and uneconomic production, between manufactured items being competitive or too expensive for the market, is very narrow. Even a slight change in transportation costs can bring a wide range of items within the area where local Alberta plants can flourish profitably in direct competition with plants in major or population centres. It should be realized, too, that firms are free to negotiate special rates with the transportation companies before manufacturing plants are actually constructed.

Considerable expansion of the chemical industry of Alberta can be expected quite reasonably. Plants now in existence are expanding productive capacity to take advantage of the present prairie and northern Canadian markets. The present chemical industrial complex is rapidly integrating. Many new basic chemicals produced make possible new ranges of chemical products.

PETROLEUM PRODUCTS:

This is now the second ranking Alberta industry in terms of gross value of production. In 1957 products were valued at \$151 million. Employment in plants exceeded 2,200 persons.

Usually refinery production is directly related to the refined products consumption of a market area. Conditions peculiar to Alberta have resulted in construction of several natural gas processing plants at various points throughout the province. These plants serve a two-fold purpose. They extract all petroleum fractions except the methane to be exported, and they prevent wastage of natural gas which might otherwise be flared. One result is the production of large quantities of propane, butane, natural gasoline and of sulphur. Production of these basic chemical raw materials will increase rapidly after 1958 as more gas fields are connected with the Trans Canada gas pipeline to serve eastern markets. As indicated in the section on industrial minerals it may be feasible to add to the list of basic minerals extracted from oil and gas fields.



COURTESY OF IMPERIAL OIL LTD.

One of the eleven Oil Refineries located at major Alberta centres.



COURTESY OF CONSOLIDATED MINING AND SMELTING CO., LTD.

Chemical fertilizers are manufactured near Calgary by Consolidated Mining and Smelting Company, Limited.

TABLE 6. MANUFACTURING INDUSTRIES OF ALBERTA -
PER FIRM, SALARIES AND WAGES PAID PER FIRM,
EXCLUSIVE OF

		INDUSTRY													
		FOODS AND BEVERAGES		LEATHER PRODUCTS		TEXTILE PRODUCTS (EXCEPT CLOTHING)		CLOTHING (TEXTILE AND FUR)		WOOD PRODUCTS		PAPER PRODUCTS		PRINTING PUBLISHING AND ALLIED PRODUCTS	
		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS	
NUMBER OF EMPLOYEES PER FIRM		1952	1957	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957
1 0 - 5		206	224	9	5	5	5	12	14	113	118	3	1	180	79
2 6 - 15		92	113	3	1	3	2	5	6	37	34	1	4	36	49
3 16 - 25		23	25	-	1	2	3	5	4	14	19	-	2	6	8
4 26 - 50		19	25	-	1	3	2	5	7	16	16	1	1	7	12
5 51 - 100		19	19	-	-	-	1	2	1	12	10	1	7	3	4
6 101 - 200		18	16	-	-	-	1	-	1	5	7	1	-	1	1
7 201 - 500		5	10	-	-	-	-	1	-	-	3	-	-	2	2
8 501 - 1,000		3	3	-	-	-	-	-	1	-	-	-	1	-	-
9 1,001 - OVER		-	-	-	-	-	-	-	-	-	1	-	-	-	-
TOTAL		386	435	12	8	13	14	30	34	197	208	7	16	235	155
SALARIES AND WAGES PAID BY FIRM \$															
1 0 - 7,500		156	148	8	4	5	5	8	10	95	90	3	1	143	36
2 7,501 - 30,000		133	165	4	1	3	1	8	10	48	55	-	2	59	68
3 30,001 - 50,000		24	28	-	1	2	2	6	5	17	18	-	1	12	19
4 50,001 - 75,000		13	21	-	1	2	3	4	3	9	5	1	2	8	12
5 75,001 - 100,000		8	11	-	1	1	1	3	1	7	7	1	-	5	4
6 100,001 - 150,000		10	13	-	-	-	-	-	2	9	11	2	1	3	7
7 150,001 - 200,000		7	6	-	-	-	-	-	1	5	3	-	1	1	3
8 200,001 - 500,000		22	27	-	-	-	1	-	1	7	14	-	7	2	3
9 500,001 - OVER		13	16	-	-	-	1	1	1	-	5	-	1	2	3
TOTAL		386	435	12	8	13	14	30	34	197	208	7	16	235	155
NET VALUE OF PRODUCTION PER FIRM \$															
1 0 - 5,000		88	70	6	3	4	5	2	5	57	63	-	1	96	17
2 5,001 - 25,000		138	164	4	3	2	1	11	11	65	67	3	1	80	57
3 25,001 - 50,000		51	69	2	2	4	2	4	4	26	22	-	1	28	33
4 50,001 - 100,000		30	36	-	-	2	1	6	7	15	15	-	3	15	22
5 100,001 - 250,000		30	33	-	-	1	4	5	4	22	18	-	-	11	16
6 250,001 - 500,000		16	20	-	-	-	-	-	2	6	12	1	5	1	6
7 500,001 - 1,000,000		16	19	-	-	-	-	-	-	6	5	3	4	2	1
8 1,000,001 - OVER		17	24	-	-	-	1	1	1	-	6	-	1	2	3
TOTAL		386	435	12	8	13	14	30	34	197	208	7	16	235	155
GROSS VALUE OF PRODUCTION PER FIRM \$															
1 0 - 5,000		30	33	5	1	3	3	2	3	38	36	-	-	86	9
2 5,001 - 25,000		84	75	3	4	2	3	8	9	52	56	1	2	66	43
3 25,001 - 50,000		46	58	1	1	1	-	3	5	17	29	1	-	40	41
4 50,001 - 100,000		48	60	3	2	2	2	2	2	27	27	1	-	40	23
5 100,001 - 250,000		80	83	-	-	3	2	12	11	29	16	-	3	1	26
6 250,001 - 500,000		34	48	-	-	-	-	1	1	15	17	-	1	2	6
7 500,001 - 1,000,000		23	27	-	-	1	2	1	1	11	12	1	2	-	4
8 1,000,001 - 10,000,000		36	44	-	-	1	2	1	2	8	15	3	8	-	3
9 10,000,001 - OVER		5	7	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		386	435	12	8	13	14	30	34	197	208	7	16	235	155

1952 AND 1957, GROUPED ACCORDING TO NUMBER OF EMPLOYEES
AND NET AND GROSS VALUE OF PRODUCTION PER FIRM
SAWMILLING FIRMS

INDUSTRY

IRON AND STEEL PRODUCTS		TRANSPORTATION EQUIPMENT		NON-FERROUS METAL PRODUCTS		ELECTRICAL APPARATUS AND SUPPLIES		NON-METALLIC MINERAL PRODUCTS		PRODUCTS OF PETROLEUM AND COAL		CHEMICAL PRODUCTS		MISCELLANEOUS MANUFACTURING INDUSTRIES		TOTAL - ALL MANUFACTURING INDUSTRIES	
NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS		NO. FIRMS	
1952	1957	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957
61	61	8	5	7	6	2	4	32	21	8	4	16	11	24	28	686	586 ¹
31	44	4	2	-	4	-	-	9	14	1	5	5	13	9	14	236	305 ²
14	18	3	4	-	1	-	3	7	10	-	1	4	2	3	4	81	105 ³
17	19	1	4	1	2	-	2	10	15	4	4	1	1	4	3	89	114 ⁴
14	17	1	2	-	-	-	1	8	6	2	5	1	2	-	-	63	75 ⁵
2	4	-	-	-	-	-	-	3	3	3	4	-	2	-	-	33	39 ⁶
3	3	1	-	-	-	-	-	1	1	2	2	1	4	-	-	17	25 ⁷
-	-	2	3	-	1	-	-	-	1	-	-	-	-	-	-	5	10 ⁸
-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2 ⁹
142	166	21	21	8	14	2	10	70	71	20	25	28	35	40	49	1,211	1,261

40	27	6	5	4	4	-	2	22	14	6	3	14	8	21	18	531	375 ¹
39	47	5	-	3	6	1	1	17	12	3	3	5	10	12	21	340	402 ²
16	20	2	1	-	1	1	1	7	9	-	2	2	5	1	2	90	115 ³
8	21	1	5	-	-	-	3	5	7	1	1	4	3	2	3	58	90 ⁴
10	9	2	1	-	-	-	-	1	5	-	-	-	-	1	-	39	40 ⁵
8	16	-	3	1	2	-	1	9	7	3	1	1	1	3	4	49	69 ⁶
12	4	1	-	-	-	-	1	2	7	1	2	-	1	-	1	29	30 ⁷
5	15	-	2	-	-	-	1	6	7	3	8	1	1	-	-	46	87 ⁸
4	7	4	4	-	1	-	-	1	3	3	5	1	6	-	-	29	53 ⁹
142	166	21	21	8	14	2	10	70	71	20	25	28	35	40	49	1,211	1,261

18	13	3	3	2	4	-	1	13	7	2	-	7	6	9	10	307	208 ¹
49	45	6	2	5	2	1	3	16	7	3	3	7	3	19	18	409	387 ²
18	20	1	1	-	4	-	-	9	6	2	1	3	6	3	9	151	180 ³
14	28	3	4	-	1	1	1	6	21	-	1	2	5	3	4	97	149 ⁴
24	30	3	5	-	2	-	3	11	11	1	2	4	5	6	5	119	138 ⁵
13	18	1	1	1	-	-	1	10	7	2	4	3	2	-	3	54	81 ⁶
3	4	1	1	-	-	-	-	3	6	4	4	1	3	-	-	39	47 ⁷
3	8	3	4	-	1	-	1	2	6	6	10	1	5	-	-	35	71 ⁸
142	166	21	21	8	14	2	10	70	71	20	25	28	35	40	49	1,211	1,261

9	6	2	3	2	2	-	-	10	6	5	1	5	2	7	4	204	109 ¹
41	35	5	2	4	3	-	2	15	5	-	1	7	5	17	17	305	262 ²
21	20	2	-	1	1	1	1	10	3	-	-	2	3	4	9	150	171 ³
17	22	2	1	-	5	-	-	5	11	2	2	3	3	4	9	156	169 ⁴
22	33	5	6	-	-	-	1	12	17	1	2	4	8	6	5	175	213 ⁵
17	20	-	3	-	-	1	2	8	9	-	4	4	5	2	4	84	120 ⁶
9	13	1	2	1	2	-	2	5	8	2	-	-	2	-	1	55	78 ⁷
6	16	4	3	-	-	-	2	5	12	7	10	3	7	-	-	74	124 ⁸
-	1	-	1	-	1	-	-	-	-	3	5	-	-	-	-	8	15 ⁹
142	166	21	21	8	14	2	10	70	71	20	25	28	35	40	49	1,211	1,261

TABLE 7. VALUE OF MANUFACTURERS' FACTORY SHIPMENTS, BY INDUSTRIAL GROUPS
ALBERTA, 1948-1957

	1948 \$	1949 \$	1950 \$	1951 \$	1952 \$	1953 \$	1954 \$	1955 \$	1956 \$	** 1957 \$
FOODS AND BEVERAGES	228,538,000	212,814,000	219,669,000	246,955,000	259,319,000	264,073,000	263,662,000	272,808,000	287,686,000	306,392,000
LEATHER PRODUCTS	218,000	208,000	189,000	273,000	258,000	260,000	282,000	225,000	234,000	213,000
TEXTILES	392,000	1,979,000	2,365,000	3,314,000	2,847,000	2,940,000	4,266,000	5,108,000	5,784,000	6,058,000
KNITTING MILLS	*	*	*	*	*	367,000	261,000	259,000	231,000	(1)
CLOTHING	6,366,000	6,139,000	7,258,000	7,202,000	7,612,000	7,396,000	6,989,000	7,663,000	8,398,000	10,247,000
WOOD PRODUCTS	38,890,000	36,959,000	42,743,000	51,208,000	57,614,000	59,862,000	54,360,000	56,917,000	54,654,000	61,223,000
PAPER PRODUCTS	1,500,000	1,919,000	2,312,000	3,420,000	6,455,000	7,457,000	7,673,000	10,268,000	12,376,000	17,534,000
PRINTING, PUBLISHING AND ALLIED INDUSTRIES	9,036,000	11,638,000	11,474,000	13,548,000	15,918,000	17,115,000	18,793,000	20,574,000	23,079,000	23,616,000
IRON AND STEEL PRODUCTS	11,614,000	13,873,000	16,826,000	21,089,000	26,865,000	32,650,000	34,294,000	40,553,000	55,287,000	68,733,000
TRANSPORTATION EQUIPMENT ..	9,749,000	12,494,000	12,189,000	16,507,000	21,610,000	25,050,000	19,810,000	19,390,000	24,344,000	28,102,000
NON-FERROUS METAL PRODUCTS	894,000	902,000	1,086,000	1,391,000	1,378,000	1,462,000	3,614,000	15,164,000	17,866,000	21,004,000
ELECTRICAL APPARATUS AND SUPPLIES	189,000	40,000	65,000	196,000	465,000	572,000	972,000	3,088,000	3,773,000	4,115,000
NON-METALLIC MINERAL PRODUCTS	13,294,000	14,758,000	16,876,000	18,147,000	23,450,000	29,320,000	30,159,000	33,036,000	37,637,000	43,478,000
PRODUCTS OF PETROLEUM AND COAL	35,955,000	48,210,000	59,928,000	62,780,000	81,009,000	89,987,000	101,979,000	116,233,000	132,700,000	148,047,000
CHEMICALS AND ALLIED PRODUCTS	8,882,000	9,319,000	8,331,000	9,891,000	11,031,000	14,582,000	25,923,000	36,865,000	35,356,000	41,918,000
MISCELLANEOUS MANUFAC- TURING	563,000	743,000	1,529,000	2,360,000	2,580,000	2,722,000	2,241,000	2,997,000	3,779,000	4,442,000
TOTAL	366,080,000	371,995,000	402,840,000	458,281,000	518,411,000	555,815,000	575,278,000	641,148,000	703,184,000	785,122,000

* INCLUDED WITH CLOTHING PRIOR TO 1953 -

**PRELIMINARY -

(1) INCLUDED IN MISC.

TABLE 8. VALUE OF MANUFACTURERS' FACTORY SHIPMENTS, BY INDUSTRIAL GROUPS
ALBERTA, 1948-1957
(EXPRESSED IN PERCENTAGES)

	1948 %	1949 %	1950 %	1951 %	1952 %	1953 %	1954 %	1955 %	1956 %	** 1957 %
FOODS AND BEVERAGES	62.43	57.21	54.53	53.89	50.02	47.51	45.83	42.55	40.91	39.02
LEATHER PRODUCTS .....	.06	.06	.05	.06	.05	.05	.05	.04	.04	.03
TEXTILES .....	.11	.53	.59	.72	.55	.53	.74	.80	.82	.77
KNITTING MILLS	*	*	*	*	*	.07	.05	.04	.03	(1)
CLOTHING	1.74	1.65	1.80	1.57	1.47	1.33	1.21	1.19	1.20	1.31
WOOD PRODUCTS	10.62	9.94	10.61	11.17	11.11	10.77	9.45	8.88	7.77	7.80
PAPER PRODUCTS .....	.41	.51	.57	.75	1.25	1.34	1.33	1.60	1.76	2.23
PRINTING, PUBLISHING AND ALLIED INDUSTRIES	2.47	3.13	2.85	2.96	3.07	3.08	3.27	3.21	3.28	3.01
IRON AND STEEL PRODUCTS	3.17	3.73	4.18	4.60	5.18	5.87	5.96	6.32	7.86	8.75
TRANSPORTATION EQUIPMENT ..	2.66	3.36	3.02	3.60	4.17	4.51	3.44	3.02	3.46	3.58
NON-FERROUS METAL PRODUCTS .....	.25	.24	.27	.30	.26	.26	.63	2.37	2.54	2.67
ELECTRICAL APPARATUS AND SUPPLIES .....	.05	.01	.02	.04	.09	.10	.17	.48	.54	.52
NON-METALLIC MINERAL PRODUCTS	3.63	3.97	4.19	3.96	4.52	5.28	5.24	5.15	5.35	5.54
PRODUCTS OF PETROLEUM AND COAL	9.82	12.96	14.87	13.70	15.63	16.19	17.73	18.13	18.87	18.86
CHEMICALS AND ALLIED PRODUCTS	2.43	2.50	2.07	2.16	2.13	2.62	4.51	5.75	5.03	5.34
MISCELLANEOUS MANUFAC- TURING .....	.15	.20	.38	.52	.50	.49	.39	.47	.54	.57
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* INCLUDED WITH CLOTHING PRIOR TO 1953 -

** PRELIMINARY -

(1) INCLUDED IN MISC.

TABLE 9. PRODUCTION, IMPORTS, EXPORTS AND CONSUMPTION OF PRIMARY AND MANUFACTURED PRODUCTS
ALBERTA, 1946 AND 1954

	ALBERTA - 1946				ALBERTA - 1954			
	PRODUCTION \$	IMPORTS \$	EXPORTS \$	CONSUMPTION \$	PRODUCTION \$	IMPORTS \$	EXPORTS \$	CONSUMPTION \$
<u>AGRICULTURE -</u>								
FIELD CROPS-----	283,965,000	5,512,000	144,735,000	144,742,000	401,972,000	6,187,000	173,658,000	234,501,000
VEGETABLES -----	9,529,000	1,887,000	184,000	11,232,000	10,822,000	2,441,000	61,000	13,202,000
LIVESTOCK AND DAIRY PRODUCTS -----	125,610,000	-	25,074,000	100,536,000	190,042,000	-	49,388,000	140,774,000
MISC. AGRICULTURE PRODUCTS -----	16,549,000	-	10,221,000	6,328,000	20,096,000	-	10,669,000	9,427,000
	435,653,000	7,399,000	180,214,000	262,838,000	622,932,000	8,628,000	233,776,000	397,904,000
<u>FORESTRY -</u>								
PULPWOOD -----	36,000	-	36,000	-	458,000	-	458,000	-
FISHING - -----	1,452,000	-	641,000	-	1,206,000	-	351,000	-
MINING - -----	56,430,000	1,359,000	15,972,000	41,767,000	270,003,000	14,846,000	192,560,000	92,289,000
<u>MANUFACTURING -</u>								
FOODS AND BEVERAGES -----	168,629,000	19,697,000	85,744,000	102,582,000	247,992,000	64,247,000	93,533,000	218,706,000
TOBACCO -----	-	15,635,000	-	15,635,000	-	20,229,000	-	20,229,000
RUBBER PRODUCTS -----	10,000	10,130,000	-	10,140,000	14,000	19,337,000	-	19,337,000
LEATHER PRODUCTS -----	222,000	8,411,000	-	8,633,000	274,000	12,177,000	-	12,441,000
TEXTILES -----	4,656,000	37,245,000	1,023,000	40,878,000	11,062,000	59,303,000	3,754,000	66,626,000
WOOD PRODUCTS -----	25,308,000	12,838,000	1,430,000	36,716,000	50,761,000	34,085,000	7,674,000	76,932,000
PAPER PRODUCTS -----	1,090,000	1,915,000	273,000	2,732,000	7,479,000	13,913,000	967,000	20,176,000
PRINTING -----	7,856,000	2,427,000	-	10,283,000	18,792,000	6,249,000	-	25,041,000
IRON AND STEEL -----	8,274,000	34,277,000	-	39,874,000	31,246,000	122,537,000	-	141,109,000
TRANSPORTATION -----	6,999,000	15,032,000	-	18,888,000	19,811,000	73,511,000	-	83,941,000
NON-FERROUS METAL -----	604,000	74,000	-	604,000	3,121,000	3,526,000	2,130,000	3,872,000
ELECTRICAL APPLIANCES -----	-	-	-	-	396,000	4,180,000	-	4,296,000
NON-METALLIC MINERAL PRODUCTS -----	8,462,000	712,000	2,932,000	6,340,000	28,759,000	3,675,000	5,591,000	27,314,000
PRODUCTS OF PETROLEUM AND COAL --	22,255,000	1,532,000	4,412,000	19,375,000	108,698,000	3,385,000	23,604,000	88,479,000
CHEMICAL PRODUCTS -----	4,953,000	11,130,000	4,482,000	11,601,000	24,684,000	30,002,000	16,664,000	34,043,000
MISCELLANEOUS MANUFACTURING -----	20,000	3,453,000	-	3,453,000	63,000	9,201,000	-	9,264,000
<u>GRAND TOTAL</u>	752,909,000	183,266,000	297,159,000	632,339,000	1,447,751,000	503,031,000	581,062,000	1,341,999,000

TABLE 10. PRELIMINARY PRINCIPAL STATISTICS OF THE MANUFACTURING INDUSTRIES, BY CENSUS DIVISIONS
ALBERTA - 1957

DIVISION	ESTAB- LISH- MENTS	EMPLOYEES			SALARIES AND WAGES	COST OF FUEL AND ELECTRICITY	COST OF MATERIALS	VALUE OF PRODUCTION	
		MALE	FEMALE	TOTAL				NET	GROSS
	NO.	NO.	NO.	NO.	\$	\$	\$	\$	\$
DIVISION NO. 1									
MEDICINE HAT	37	984	142	1,126	3,731,453	483,406	13,530,378	6,402,519	20,416,303
OTHER	12	523	221	744	2,278,788	74,539	2,832,920	4,597,225	7,504,684
GRAND TOTAL	49	1,507	363	1,870	6,010,241	557,945	16,363,298	10,999,744	27,920,987
DIVISION NO. 2									
LETHBRIDGE	50	971	207	1,178	3,723,078	299,696	9,489,429	9,326,247	19,115,372
BROOKS	4	21	1	22	47,853	13,062	65,554	69,331	147,947
OTHER	20	537	63	600	1,756,382	327,408	9,489,267	6,266,307	16,082,982
GRAND TOTAL	74	1,529	271	1,800	5,527,313	640,166	19,044,250	15,661,885	35,346,301
DIVISION NO. 3									
CARDSTON	3	5	1	6	8,971	220	9,000	14,226	23,446
CLARESHOLM	4	12	1	13	31,694	1,560	76,037	45,429	123,026
OTHER	18	210	46	256	735,264	102,162	2,253,245	1,627,163	3,982,570
GRAND TOTAL	25	227	48	275	775,929	103,942	2,338,282	1,686,818	4,129,042
DIVISION NO. 4									
OTHER	4	13	2	15	44,951	4,262	180,191	76,950	261,403
GRAND TOTAL	4	13	2	15	44,951	4,262	180,191	76,950	261,403
DIVISION NO. 5									
DRUMHELLER	6	17	10	27	57,666	6,677	125,607	136,717	269,001
VULCAN	3	12	-	12	32,134	954	28,882	47,723	77,559
OTHER	14	67	2	69	166,778	13,019	322,252	168,915	504,186
GRAND TOTAL	23	96	12	108	256,578	20,650	476,741	353,355	850,746
DIVISION NO. 6									
CALGARY	324	9,309	1653	10,962	41,111,472	3,483,032	131,978,280	87,463,956	222,925,268
BOWNESS	4	18	5	23	72,289	1,511	100,565	123,247	225,323
OLDS	6	17	4	21	49,710	5,888	277,216	81,683	364,787
SUNDRE	4	7	-	7	15,386	2,514	140,041	39,496	182,051
OTHER	24	204	19	223	795,100	182,932	6,493,267	4,073,019	10,749,218
GRAND TOTAL	362	9,555	1681	11,236	42,043,957	3,675,877	138,989,369	91,781,401	234,446,647
DIVISION NO. 7									
CASTOR	5	9	3	12	25,685	2,672	138,173	46,881	187,726
STETTLE	8	29	7	36	110,148	9,583	278,004	205,289	492,876
OTHER	13	110	16	126	401,771	228,153	3,443,460	1,470,584	5,142,197
GRAND TOTAL	26	148	26	174	537,604	240,408	3,859,637	1,722,754	5,822,799
DIVISION NO. 8									
RED DEER	22	247	61	308	944,879	86,858	4,272,562	2,691,967	7,051,387
INNISFAIL	5	42	6	48	124,439	10,842	453,474	171,153	635,469
LACOMBE	7	26	5	31	83,606	5,044	281,421	117,209	403,674
PONOKA	8	28	5	33	69,131	7,660	527,302	178,686	713,648
RIMBEY	4	13	9	22	53,991	4,007	204,496	73,112	281,615
ROCKY MOUNTAIN HOUSE	6	37	7	44	110,459	11,458	602,542	140,887	754,887
OTHER	32	189	16	205	592,806	75,762	1,644,570	681,129	2,401,461
GRAND TOTAL	84	582	109	691	1,979,311	201,631	7,986,367	4,054,143	12,242,141
DIVISION NO. 9									
BLAIRMORE	4	15	2	17	56,036	3,241	48,271	76,295	127,807
OTHER	134	828	10	838	2,253,444	1,022,078	3,014,172	3,558,583	7,594,833
GRAND TOTAL	138	843	12	855	2,309,480	1,025,319	3,062,443	3,634,878	7,722,640
DIVISION NO. 10									
CAMROSE	11	62	15	77	252,070	18,235	951,515	344,882	1,314,632
LLOYDMINSTER	10	299	14	313	1,179,163	379,720	5,675,218	3,917,894	9,972,832
VEGREVILLE	5	18	8	26	69,794	5,053	530,043	85,513	620,609
VERMILION	6	21	5	26	59,578	8,339	345,186	127,638	481,163
OTHER	34	153	19	172	487,648	129,697	2,811,814	1,179,697	4,121,208
GRAND TOTAL	66	553	61	614	2,048,253	541,044	10,313,776	5,655,624	16,510,444
DIVISION NO. 11									
EDMONTON	358	12,603	2988	15,591	56,894,840	5,955,473	220,425,419	144,530,018	370,910,910
LEDUC	5	16	6	22	55,285	5,218	322,533	77,830	405,581
WETASKIWIN	11	134	16	150	490,580	23,113	1,622,988	1,280,091	2,926,192
MORINVILLE	3	6	2	8	14,935	1,376	16,653	22,180	40,209
STONY PLAIN	3	5	1	6	6,335	421	32,500	15,687	48,608
OTHER	18	824	38	862	4,021,463	563,327	10,796,583	13,361,467	24,721,377
GRAND TOTAL	398	13,588	3051	16,639	61,483,438	6,548,928	233,216,676	159,287,273	399,052,877
DIVISION NO. 12									
LAC LA BICHE	3	29	3	32	95,764	14,036	423,753	169,856	607,645
ST. PAUL	8	23	9	32	77,052	9,598	450,780	153,546	613,924
OTHER	52	276	16	292	700,479	93,777	2,334,266	2,062,385	4,490,428
GRAND TOTAL	63	328	28	356	873,295	117,411	3,208,799	2,385,787	5,711,997

PRELIMINARY PRINCIPAL STATISTICS OF THE MANUFACTURING INDUSTRIES, BY CENSUS DIVISIONS
ALBERTA - 1957 (CONTINUED)

D I V I S I O N	ESTAB- LISH- MENTS	EMPLOYEES			SALARIES AND WAGES	COST OF FUEL AND ELECTRICITY	COST OF MATERIALS	VALUE OF PRODUCTION	
		MALE	FEMALE	TOTAL				NET	GROSS
	NO.	NO.	NO.	NO.	\$	\$	\$	\$	\$
DIVISION NO. 13									
ATHABASCA	6	32	5	37	70,370	8,369	407,492	151,925	567,786
BARRHEAD	6	43	7	50	122,831	16,812	1,173,939	263,152	1,453,903
WESTLOCK	6	17	6	23	51,042	3,795	562,886	76,092	642,773
OTHER	46	177	5	182	404,519	34,154	1,135,653	1,030,561	2,200,368
GRAND TOTAL	64	269	23	292	648,762	63,130	3,279,970	1,521,730	4,864,830
DIVISION NO. 14									
OTHER	116	995	49	1,044	3,560,097	657,618	5,973,458	3,325,056	9,956,132
GRAND TOTAL	116	995	49	1,044	3,560,097	657,618	5,973,458	3,325,056	9,956,132
DIVISION NO. 15									
GRANDE PRAIRIE	15	430	62	492	1,483,531	175,940	3,938,658	2,675,815	6,790,413
PEACE RIVER	6	38	8	46	114,273	22,009	386,876	228,213	637,098
OTHER	324	1,404	7	1,411	2,725,902	314,459	6,366,435	6,174,966	12,855,860
GRAND TOTAL	345	1,872	77	1,949	4,323,706	512,408	10,691,969	9,078,994	20,283,371



ALBERTA GOVERNMENT PHOTOGRAPH

The value of forestry products is ranked fourth among
Alberta manufacturing groupings.

TABLE 11. PRELIMINARY PRINCIPAL STATISTICS — MANUFACTURING INDUSTRIES

ALBERTA — 1957

	ESTABLISH- MENTS NO.	EMPLOYEES			SALARIES AND WAGES \$	COST OF FUEL AND ELECTRICITY \$	COST OF MATERIALS \$	VALUE OF PRODUCTS	
		MALE NO.	FEMALE NO.	TOTAL NO.				NET \$	GROSS \$
FOODS AND BEVERAGES	395	8729	2402	11,131	37,198,041	2,847,445	220,109,023	83,435,235	306,391,703
SLAUGHTERING AND MEAT PACKING	16	3117	883	4,000	15,101,645	544,037	122,721,646	26,390,170	149,655,853
BUTTER AND CHEESE FACTORIES	98	1544	327	1,871	5,676,538	537,242	30,708,548	8,594,914	39,840,704
FRUIT AND VEGETABLE PREPARATIONS	6	210	121	331	759,841	89,718	2,831,589	1,906,760	4,828,067
FEED MILLS	26	42	-	42	60,999	6,113	387,787	75,430	469,330
FLOUR MILLS	9	548	77	625	1,891,648	222,294	21,340,345	4,706,157	26,268,796
PREPARED STOCK AND POULTRY FEED	49	264	21	285	907,556	96,699	7,244,398	2,284,010	9,625,107
BISCUITS AND CRACKERS	3	70	112	182	445,390	9,526	1,145,417	1,038,561	2,193,504
BREAD AND OTHER BAKERY PRODUCTS	127	1215	564	1,779	5,630,275	448,935	8,078,538	10,253,846	18,781,319
CARBONATED BEVERAGES	23	275	73	348	1,000,955	168,639	2,186,009	4,201,134	6,555,782
MALT LIQUORS (BREWERIES)	6	538	18	556	2,276,754	177,350	4,062,919	11,858,719	16,098,988
CONFECTIONERY, COCOA, ETC.	6	27	15	42	72,978	2,452	292,921	261,053	556,426
MISCELLANEOUS FOODS, ETC.	10	92	37	129	392,376	42,316	1,702,939	1,153,767	2,899,022
OTHER INDUSTRIES (1)	16	787	154	941	2,981,086	502,124	17,405,967	10,710,714	28,618,805
LEATHER PRODUCTS	8	64	22	86	209,432	1,200	104,021	108,273	213,494
LEATHER TANNERIES	3	4	-	4	4,950	450	11,306	11,795	23,551
OTHER INDUSTRIES (2)	5	60	22	82	204,482	750	92,715	96,478	189,943
TEXTILE PRODUCTS (EXCEPT CLOTHING)	17	265	164	429	1,462,731	80,978	3,869,975	2,179,920	6,130,873
CANVAS PRODUCTS	8	36	27	63	185,216	4,743	354,231	243,949	602,923
EMBROIDERY	3	8	11	19	40,052	703	30,668	57,197	88,568
OTHER INDUSTRIES (3)	6	221	126	347	1,237,463	75,532	3,485,076	1,878,774	5,439,382
CLOTHING (TEXTILE AND FUR)	31	230	971	1,201	3,040,722	42,658	5,960,707	4,243,573	10,246,938
CLOTHING, MEN'S FACTORY	8	140	723	863	2,394,280	24,068	4,987,781	3,271,598	8,283,447
CLOTHING, WOMEN'S FACTORY	9	41	175	216	397,545	11,006	646,432	616,966	1,274,404
OTHER KNITTED GOODS	4	12	14	26	55,913	1,283	58,826	77,834	137,943
FUR GOODS	6	12	8	20	46,136	866	117,080	91,646	209,592
OTHER INDUSTRIES (4)	4	25	51	76	146,848	5,435	150,588	185,529	341,552
WOOD PRODUCTS	824	5286	268	5,554	13,590,051	1,132,153	32,203,768	27,887,519	61,223,440
SASH, DOOR AND PLANING MILLS	104	1643	72	1,715	4,993,393	302,357	13,690,124	8,114,341	22,106,822
SAWMILLS	624	2465	-	2,465	4,375,645	570,115	8,432,606	10,557,954	19,560,675
FURNITURE	76	587	120	707	2,092,212	74,399	3,784,996	3,474,089	7,333,484
BOXES, BASKETS AND CRATES	3	126	7	133	361,612	10,837	501,806	456,598	969,241
MORTICIANS' GOODS	4	18	8	26	68,695	1,399	151,265	116,917	269,581
MISCELLANEOUS WOOD-USING INDUSTRIES									
N. E. S.	7	17	5	22	52,411	4,163	97,223	103,726	205,112
OTHER INDUSTRIES (5)	6	430	56	486	1,646,083	168,883	5,545,748	5,063,894	10,778,525
PAPER PRODUCTS	16	974	171	1,445	4,869,762	669,990	10,872,101	5,991,660	17,533,751
PAPER BOXES AND BAGS	5	236	109	345	1,310,578	38,716	3,985,620	2,380,409	6,404,745
ROOFING PAPER	3	156	10	166	595,986	51,971	2,590,395	2,166,762	4,809,128
OTHER INDUSTRIES (6)	7	582	52	634	2,963,198	579,303	4,296,086	1,444,489	6,319,878
PRINTING, PUBLISHING AND ALLIED INDUSTRIES	156	1875	543	2,418	8,369,548	161,766	6,819,615	16,634,651	23,616,032
COMMERCIAL PRINTING (PRINTING AND BOOKBINDING)	72	700	211	911	3,187,744	63,033	2,396,111	5,242,386	7,701,530
ENGRAVING, STEREOTYPING AND ALLIED INDUSTRIES	6	51	18	69	212,405	5,419	80,926	318,480	404,825
PRINTING AND PUBLISHING	72	1089	307	1,396	4,861,610	89,195	4,264,445	10,914,803	15,268,443
OTHER INDUSTRIES (7)	6	35	7	42	107,789	4,119	78,133	158,982	241,234
IRON AND STEEL PRODUCTS	161	4145	347	4,492	17,579,595	945,679	37,038,738	30,748,676	68,733,093
AGRICULTURAL IMPLEMENTS	8	148	8	156	574,506	32,585	634,307	708,627	1,375,519
BOILERS, TANKS AND PLATE WORK	10	300	21	321	1,276,991	142,011	2,889,365	3,063,742	6,095,118
FABRICATED AND STRUCTURAL STEEL	5	842	149	991	4,104,465	76,322	9,128,514	7,009,442	16,214,278
HEATING AND COOKING APPARATUS	10	148	9	157	532,948	22,423	701,312	814,661	1,538,396
IRON CASTINGS	11	549	23	572	2,260,121	105,506	10,518,953	4,844,088	15,468,547
MACHINE SHOPS	64	884	25	909	3,572,065	147,297	2,807,506	5,285,412	8,240,215
INDUSTRIAL MACHINERY	7	379	19	398	1,464,398	41,860	1,562,464	2,956,836	4,561,160
SHEET METAL PRODUCTS	23	465	73	538	1,953,779	58,430	5,325,341	3,656,316	9,040,087
MISCELLANEOUS IRON AND STEEL PRODUCTS	14	96	3	99	323,517	11,721	421,993	506,489	940,203
OTHER INDUSTRIES (8)	9	334	17	351	1,516,805	307,524	3,048,983	1,903,063	5,259,570
TRANSPORTATION EQUIPMENT	25	3395	220	3,615	13,297,751	232,897	12,398,202	15,470,831	28,101,930
MOTOR VEHICLE PARTS AND ACCESSORIES	17	285	21	306	1,085,845	40,196	1,699,445	1,703,168	3,442,809
OTHER INDUSTRIES (9)	8	3110	199	3,309	12,211,906	192,701	10,698,757	13,767,663	24,659,121
NON-FERROUS METAL PRODUCTS (10)	14	744	34	778	3,582,229	478,918	9,318,435	11,206,397	21,003,750
ELECTRICAL APPARATUS (11)	8	163	25	188	646,806	59,883	2,879,030	1,175,897	4,114,810
NON-METALLIC MINERAL PRODUCTS	73	2230	342	2,572	9,125,025	1,942,417	16,398,473	25,136,861	43,477,751
BRICK AND TILE	6	327	5	332	1,158,218	130,001	117,929	2,322,672	2,570,602
LIME PRODUCTS	5	77	1	78	286,854	101,804	152,388	469,265	723,457
STONE PRODUCTS	5	65	10	75	225,799	25,068	459,874	421,468	906,410
CONCRETE PRODUCTS	39	664	31	695	2,606,997	221,794	10,207,604	8,714,737	19,144,135
OTHER INDUSTRIES (12)	18	1097	295	1,392	4,847,157	1,463,750	5,460,678	13,208,719	20,133,147
PRODUCTS OF PETROLEUM AND COAL	24	1897	103	2,000	9,673,223	3,647,443	83,212,002	61,187,319	148,046,764
PETROLEUM REFINING AND PRODUCTS	11	1621	99	1,720	8,266,157	3,351,042	77,925,216	55,293,479	136,569,737
GAS PROCESSING PLANTS	9	252	3	255	1,350,035	279,211	5,127,084	5,750,383	11,156,678
OTHER INDUSTRIES (13)	4	24	1	25	57,031	17,190	159,702	143,457	320,349

PRELIMINARY PRINCIPAL STATISTICS — MANUFACTURING INDUSTRIES
ALBERTA — 1957 (CONTINUED)

	ESTABLISH- MENTS NO.	MALE NO.	FEMALE NO.	EMPLOYEES TOTAL NO.	SALARIES AND WAGES \$	COST OF FUEL AND ELECTRICITY \$	COST OF MATERIALS \$	VALUE OF PRODUCTS NET \$	GROSS \$
CHEMICALS AND ALLIED PRODUCTS	35	1,766	165	1,931	8,431,935	2,580,453	16,034,904	23,302,485	41,917,842
MISCELLANEOUS CHEMICAL PRODUCTS	10	76	5	85	225,236	18,174	505,004	361,334	884,512
COMPRESSED GASES	6	115	18	133	463,084	47,703	390,050	1,429,366	1,867,119
OTHER INDUSTRIES (14)	19	1,575	138	1,713	7,743,615	2,514,576	15,139,850	21,511,785	39,166,211
MISCELLANEOUS MANUFACTURING INDUSTRIES	50	342	36	378	1,346,064	86,859	1,766,232	2,517,095	4,370,186
FABRICATED PLASTIC PRODUCTS	6	38	1	42	146,646	19,068	687,558	362,793	1,069,419
SCIENTIFIC AND PROFESSIONAL INSTRUMENTS AND EQUIPMENT	8	35	6	41	114,540	2,969	272,249	136,517	411,735
SIGNS, ELECTRIC, NEON AND OTHER	27	233	19	252	961,868	43,716	677,688	1,741,709	2,463,113
OTHER INDUSTRIES (15)	9	36	7	43	123,010	21,106	128,737	276,076	425,919
GRAND TOTALS - ALBERTA	1,837	32,105	5,813	37,918	132,422,915	14,910,739	458,985,226	311,226,392	785,122,357

1. INCLUDES - SAUSAGE AND SAUSAGE CASINGS 1, ANIMAL OILS AND FATS 2, CONCENTRATED MILK PRODUCTS 2, PROCESSED CHEESE 1, OTHER DAIRY PRODUCTS 2, PREPARED BREAKFAST FOODS 2, DISTILLED LIQUORS 1, SUGAR REFINERIES 3, MACARONI, SPAGHETTI, ETC. 1, MALT AND MALT PRODUCTS 1
2. INCLUDES - LEATHER GLOVES AND MITTENS 1, MISCELLANEOUS LEATHER GOODS 4
3. INCLUDES - WOOLLEN GOODS 1, SYNTHETIC TEXTILES AND SILK 2, COTTON AND JUTE BAGS 2, MISCELLANEOUS TEXTILES, N.E.S. 1
4. INCLUDES - HOSIERY AND KNITTED GOODS 1, FUR DRESSING AND DYEING 1, HATS AND CAPS 2
5. INCLUDES - PLYWOOD AND VENEER MILLS 2, WOOD PRESERVATION 3, EXCELSIOR 1
6. INCLUDES - PULP AND PAPER MILLS 2, MISCELLANEOUS PAPER PRODUCTS 3
7. INCLUDES - TRADE COMPOSITION 2, LITHOGRAPHING 4
8. INCLUDES - HARDWARE, TOOLS AND CUTLERY 4, PIG IRON 1, STEEL INGOTS AND CASTINGS 1, WIRE AND WIRE GOODS 3
9. INCLUDES - AIRCRAFT AND AIRCRAFT PARTS 3, RAILROAD AND ROLLING STOCK EQUIPMENT 2, MISCELLANEOUS TRANSPORTATION EQUIPMENT 1
10. INCLUDES - ALUMINUM PRODUCTS 3, BRASS AND COPPER PRODUCTS 3, JEWELLERY AND SILVERWARE 2, NON-FERROUS METAL SMELTING AND REFINING 1, WHITE METAL ALLOYS 1
11. INCLUDES - BATTERIES 4, HEAVY ELECTRICAL MACHINERY AND EQUIPMENT 1, RADIO AND RADIO PARTS 1, MISCELLANEOUS ELECTRICAL PRODUCTS 2
12. INCLUDES - CEMENT 3, CLAY PRODUCTS FROM IMPORTED AND DOMESTIC CLAYS 1, GLASS PRODUCTS 1, PLATE, CUT AND ORNAMENTAL GLASS 2, LIME AND GYPSUM PRODUCTS 2, STONWARE AND POTTERY FROM DOMESTIC CLAYS 2, MISCELLANEOUS NON-METALLIC MINERAL PRODUCTS 7
13. INCLUDES - LUBRICATING OILS AND GREASES 1, MISCELLANEOUS PRODUCTS OF PETROLEUM AND COAL 3
14. INCLUDES - ACIDS, ALKALIS AND SALTS 3, EXPLOSIVES 1, FERTILIZERS 2, MEDICINAL AND PHARMACEUTICAL PREPARATIONS 2, PAINTS AND VARNISHES 1, SOAPS, WASHING COMPOUNDS AND CLEANING PREPARATIONS 3, VEGETABLE OIL MILLS 1, PRIMARY PLASTICS 4
15. INCLUDES - BROOMS, BRUSHES AND MOPS 1, TOYS AND GAMES 1, ARTIFICIAL FLOWERS AND FEATHERS 1, STAMPS AND STENCILS, RUBBER AND METAL 2, ICE, ARTIFICIAL 2, RUBBER GOODS 1, MISCELLANEOUS MANUFACTURING INDUSTRIES, N.E.S. 1



COURTESY OF CONSOLIDATED CONCRETE INDUSTRIES LTD.

Concrete Aggregate is turned out from this plant located near Calgary.

TABLE 12. PRELIMINARY PRINCIPAL STATISTICS, MANUFACTURING INDUSTRIES

CALGARY — 1957

	ESTABLISH- MENTS NO.	EMPLOYEES			SALARIES AND WAGES \$	COST OF FUEL AND ELECTRICITY \$	COST OF MATERIALS \$	VALUE OF PRODUCTS	
		MALE NO.	FEMALE NO.	TOTAL NO.				NET \$	GROSS \$
FOODS AND BEVERAGES	68	2541	721	3,262	12,117,149	837,253	69,578,297	28,576,267	98,991,817
SLAUGHTERING AND MEAT PACKING	4	999	277	1,276	5,298,960	183,066	41,940,544	9,646,440	51,770,050
BUTTER FACTORIES	9	366	71	437	1,471,803	110,600	4,660,512	2,260,944	7,032,056
FLOUR MILLS	3	210	29	239	835,897	127,877	10,342,453	2,177,257	12,647,587
PREPARED STOCK AND POULTRY FEED	8	69	9	78	308,304	27,736	1,095,824	445,097	1,568,657
BREAD AND OTHER BAKERY PRODUCTS	26	369	169	538	1,751,912	114,661	2,389,331	3,326,888	5,830,880
CARBONATED BEVERAGES	3	57	15	72	234,951	19,536	434,421	896,495	1,350,452
CONFECTIONERY, COCOA, ETC.	4	10	6	16	26,988	1,085	112,906	116,774	230,765
MISCELLANEOUS FOOD PREPARATIONS	3	71	9	80	306,084	36,615	1,209,066	1,254,053	2,499,734
OTHER INDUSTRIES (1)	8	390	136	526	1,882,250	216,077	7,393,240	8,452,319	16,061,636
LEATHER PRODUCTS	4	50	14	64	159,729	360	50,861	46,929	98,150
MISCELLANEOUS LEATHER PRODUCTS (2)	4	50	14	64	157,729	360	50,861	46,929	98,150
TEXTILE PRODUCTS (EXCEPT CLOTHING)	7	42	48	90	216,265	8,231	1,578,500	397,482	1,984,213
CANVAS PRODUCTS (AWNINGS, TENTS, SAILS, ETC.)	3	14	10	24	60,963	3,230	133,717	59,422	196,369
OTHER INDUSTRIES (3)	4	28	38	66	155,302	5,001	1,444,783	338,060	1,787,844
CLOTHING (TEXTILE AND FUR)	13	50	126	176	340,487	9,456	466,377	446,999	922,832
CLOTHING, WOMEN'S FACTORY	3	5	15	20	42,780	1,188	55,903	53,827	110,918
FUR GOODS	3	5	3	8	13,673	188	24,407	19,699	44,294
OTHER INDUSTRIES (4)	7	40	108	148	284,034	8,080	386,067	373,473	767,620
WOOD PRODUCTS	54	618	42	660	2,367,260	112,475	5,769,554	4,735,907	10,617,936
SASH, DOOR AND PLANING MILLS	12	340	16	356	1,270,372	63,673	3,086,732	1,496,442	4,646,847
FURNITURE	34	137	18	155	552,862	14,396	802,027	768,531	1,584,954
MORTICIANS' GOODS	3	15	8	23	61,927	1,399	129,187	100,838	231,424
OTHER INDUSTRIES (5)	5	126		126	482,099	33,007	1,751,608	2,370,096	4,154,711
PAPER PRODUCTS	5	181	84	265	1,054,765	41,983	3,591,842	2,089,305	5,723,130
PAPER BOXES AND BAGS (6)	5	181	84	265	1,054,765	41,983	3,591,842	2,089,305	5,723,130
PRINTING, PUBLISHING AND ALLIED INDUSTRIES	51	824	243	1,067	3,742,270	68,846	2,776,846	7,011,385	9,857,077
COMMERCIAL PRINTING (PRINTING AND BOOKBINDING)	36	338	93	431	1,545,126	27,436	1,127,017	2,574,036	3,728,489
PUBLISHING AND PRINTING	7	430	138	568	1,998,360	36,081	1,542,769	4,134,564	5,713,414
OTHER INDUSTRIES (7)	8	56	12	68	198,784	5,329	107,060	302,785	415,174
IRON AND STEEL PRODUCTS	41	1396	184	1,580	6,193,525	196,174	9,612,935	8,848,777	18,657,886
AGRICULTURAL IMPLEMENTS	4	105	8	113	440,314	7,450	189,081	376,520	573,051
MACHINE SHOP PRODUCTS	9	272	13	285	1,083,460	51,739	867,179	1,223,939	2,142,857
INDUSTRIAL MACHINERY	3	216	9	225	833,991	21,062	590,064	1,359,058	1,970,184
SHEET METAL PRODUCTS	8	175	12	187	666,721	28,664	1,686,882	1,085,649	2,801,195
OTHER INDUSTRIES (8)	17	628	142	770	3,169,039	87,259	6,279,729	4,803,611	11,170,599
TRANSPORTATION EQUIPMENT	12	1876	78	1,954	7,153,044	154,449	8,567,552	8,399,470	17,121,471
MOTOR VEHICLE PARTS AND ACCESSORIES	9	180	15	195	712,764	28,053	1,059,229	1,207,229	2,294,511
OTHER INDUSTRIES (9)	3	1696	63	1,759	6,440,280	126,396	7,508,323	7,192,241	14,826,960
NON-FERROUS METAL PRODUCTS	9	70	2	72	246,329	15,794	1,335,883	503,212	1,854,889
ALUMINUM PRODUCTS	4	19		19	60,611	2,086	65,283	93,441	160,810
BRASS AND COPPER PRODUCTS	3	31	1	32	129,099	6,429	654,436	245,045	905,910
OTHER INDUSTRIES (10)	2	20	1	21	56,619	7,279	616,164	164,726	788,169
ELECTRICAL APPARATUS (11)	5	106	19	125	427,181	53,117	2,306,740	517,525	2,877,382
NON-METALLIC MINERAL PRODUCTS	22	465	20	485	1,846,312	159,117	5,413,088	4,116,076	9,688,281
STONE PRODUCTS (STONE MONUMENTAL AND ORNAMENTAL)	3	46		46	137,561	18,910	359,490	262,959	641,359
CEMENT PRODUCTS	13	285	18	303	1,234,512	84,448	3,889,272	2,792,141	6,765,861
OTHER INDUSTRIES (12)	6	134	2	136	474,239	55,759	1,164,326	1,060,976	2,281,061
PRODUCTS OF PETROLEUM, COAL AND CHEMICAL PRODUCTS	14	927	54	981	4,562,670	1,798,651	20,504,070	20,556,179	42,858,900
MISCELLANEOUS CHEMICAL PRODUCTS, N.E.S.	7	56	9	65	162,096	9,357	423,752	268,359	701,468
OTHER INDUSTRIES (13)	7	871	45	916	4,400,574	1,789,294	20,080,318	20,287,820	42,157,432
MISCELLANEOUS MANUFACTURING INDUSTRIES	19	163	18	181	684,486	27,126	425,735	1,218,443	1,671,304
SIGNS, ELECTRIC AND NEON	11	133	9	142	572,725	16,177	300,408	1,024,801	1,341,386
OTHER INDUSTRIES (14)	8	30	9	39	111,761	10,949	125,327	193,642	329,918
GRAND TOTALS - CALGARY	324	9309	1653	10,962	41,111,472	3,483,032	131,978,280	87,463,956	222,925,268

1. INCLUDES - SAUSAGE AND SAUSAGE CASINGS 1, FRUIT AND VEGETABLE PREPARATIONS 1, BISCUITS AND CRACKERS 2, DISTILLED LIQUORS (DISTILLERIES) 1, MALT LIQUORS (BREWERIES) 2, MALT AND MALT PRODUCTS 1
2. INCLUDES - ALSO LEATHER TANNERIES 1
3. INCLUDES - BAGS, COTTON AND JUTE 2, EMBROIDERY 1, MISCELLANEOUS TEXTILES, N.E.S. 1
4. INCLUDES - CLOTHING, MEN'S FACTORY 2, HOSIERY AND KNITTED GOODS 1, OTHER KNITTED GOODS 1, FUR DRESSING AND DYEING 1, HATS AND CAPS 2
5. INCLUDES - BOXES, BASKETS AND CRATES 1, WOOD PRESERVATION 1, MISCELLANEOUS WOOD-USING INDUSTRIES, N.E.S. 3
6. INCLUDES - ALSO INCLUDES ROOFING PAPER 1
7. INCLUDES - TRADE COMPOSITION 2, LITHOGRAPHING 3, ENGRAVING, STEREOTYPING AND ALLIED INDUSTRIES 3
8. INCLUDES - BOILERS, TANKS AND PLATE WORK 2, FABRICATED AND STRUCTURAL STEEL 2, HARDWARE, TOOLS AND CUTLERY 1, HEATING AND COOKING APPARATUS 2, IRON CASTINGS 2, PRIMARY IRON AND STEEL 1, WIRE AND WIRE GOODS 1, MISCELLANEOUS IRON AND STEEL PRODUCTS, N.E.S. 6
9. INCLUDES - AIRCRAFT AND AIRCRAFT PARTS 2, RAILROAD AND ROLLING STOCK EQUIPMENT 1
10. INCLUDES - JEWELLERY AND SILVERWARE 1, WHITE METAL ALLOYS 1
11. INCLUDES - ALSO INCLUDES RADIO AND RADIO PARTS 1
12. INCLUDES - LIME AND GYPSUM PRODUCTS 2, MISCELLANEOUS NON-METALLIC PRODUCTS 4
13. INCLUDES - PRODUCTS OF PETROLEUM AND COAL 2, EXPLOSIVES 1, FERTILIZERS 1, MEDICINAL AND PHARMACEUTICAL PREPARATIONS 1, WASHING COMPOUNDS 1, GASES, COMPRESSED 1
14. INCLUDES - BROOMS, BRUSHES AND MOPS 1, FABRICATED PLASTIC PRODUCTS 2, SCIENTIFIC AND PROFESSIONAL INSTRUMENTS AND EQUIPMENT 3, STAMPS AND STENCILS, RUBBER AND METAL 1, ICE, ARTIFICIAL 1

TABLE 13. PRELIMINARY PRINCIPAL STATISTICS, MANUFACTURING INDUSTRIES.
EDMONTON --- 1957

	ESTABLISH- MENTS NO.	EMPLOYEES			SALARIES AND WAGES \$	COST OF FUEL AND ELECTRICITY \$	COST OF MATERIALS \$	VALUE OF PRODUCTS	
		MALE NO.	FEMALE NO.	TOTAL NO.				NET \$	GROSS \$
FOODS AND BEVERAGES	86	3,925	1095	5,020	17,340,653	977,754	103,456,377	33,775,400	138,209,531
SLAUGHTERING AND MEAT PACKING	8	2,085	604	2,689	9,687,244	342,933	79,919,871	16,533,838	96,796,642
BUTTER FACTORIES	7	706	120	826	2,742,964	186,908	9,580,820	4,066,719	13,834,447
PREPARED STOCK AND POULTRY FEED	13	132	11	143	465,248	38,625	5,018,010	1,482,640	6,539,275
BREAD AND OTHER BAKERY PRODUCTS	38	609	240	849	2,901,762	234,328	4,169,475	5,236,702	9,640,505
CARBONATED BEVERAGES	6	148	36	184	519,581	95,901	1,221,237	2,446,556	3,763,694
MISCELLANEOUS FOOD PREPARATIONS	5	17	9	26	55,520	3,746	238,299	60,165	302,210
OTHER INDUSTRIES (1)	9	228	75	303	968,334	75,313	3,308,665	3,948,780	7,332,758
LEATHER PRODUCTS (2)	4	14	8	22	49,703	840	53,160	61,344	115,344
TEXTILE PRODUCTS (EXCEPT CLOTHING) (3)	7	140	99	239	945,096	51,567	1,747,857	1,521,560	3,320,984
CLOTHING (TEXTILE AND FUR)	16	177	833	1,010	2,669,963	32,045	5,464,078	3,764,815	9,260,938
CLOTHING, MEN'S FACTORY	6	131	666	797	2,269,860	21,797	4,772,050	3,109,882	7,903,729
CLOTHING, WOMEN'S FACTORY	5	35	158	193	349,252	9,391	578,409	556,333	1,144,133
OTHER INDUSTRIES (4)	5	11	9	20	50,851	857	113,619	98,600	213,076
WOOD PRODUCTS	54	1,314	183	1,497	4,407,000	222,626	9,769,721	7,875,721	17,868,068
SASH, DOOR AND PLANING MILLS	23	578	33	611	1,728,768	79,527	3,025,109	2,644,925	5,749,561
FURNITURE	23	409	100	509	1,450,499	56,472	2,847,943	2,584,636	5,489,051
OTHER INDUSTRIES (5)	8	327	50	377	1,227,733	86,627	3,896,669	2,646,160	6,629,456
PAPER PRODUCTS (6)	8	247	46	293	988,252	75,329	2,804,821	2,154,193	5,034,343
PRINTING, PUBLISHING AND ALLIED PRODUCTS	36	658	234	892	3,106,507	58,409	3,228,518	6,975,124	10,262,051
COMMERCIAL PRINTING (PRINTING AND BOOKBINDING)	28	327	109	436	1,521,118	32,371	1,179,323	2,491,192	3,702,886
PUBLISHING AND PRINTING	5	302	112	414	1,465,099	21,868	1,998,402	4,311,724	6,331,954
OTHER INDUSTRIES (7)	3	29	13	42	120,290	4,170	50,793	172,208	227,171
IRON AND STEEL PRODUCTS	70	2,254	135	2,389	9,635,224	649,276	23,937,631	18,184,940	42,771,847
BOILERS, TANKS AND PLATE WORK	4	203	16	219	885,149	117,058	1,193,591	2,098,451	3,409,100
HEATING AND COOKING APPARATUS	6	105	7	112	395,503	11,977	582,606	708,277	1,302,860
IRON CASTINGS	5	310	11	321	1,369,081	74,000	9,487,966	3,321,393	12,883,359
MACHINE SHOPS	24	456	10	466	1,982,241	71,304	1,587,316	3,265,878	4,924,498
INDUSTRIAL MACHINERY	3	84	2	86	320,407	12,298	421,000	514,678	947,976
SHEET METAL PRODUCTS	14	286	61	347	1,273,481	29,466	3,526,331	2,570,001	6,125,798
MISCELLANEOUS IRON AND STEEL PRODUCTS	7	60	3	63	218,753	6,889	335,210	342,308	684,407
OTHER INDUSTRIES (8)	7	750	25	775	3,190,609	326,284	6,803,611	5,363,954	12,493,849
TRANSPORTATION EQUIPMENT (9)	9	1,484	140	1,624	6,030,863	74,932	3,558,256	6,929,292	10,562,480
NON-FERROUS METAL PRODUCTS (10)	3	38	10	48	158,153	3,788	47,275	152,163	203,226
NON-METALLIC MINERAL PRODUCTS	22	560	27	587	2,371,655	657,044	6,211,203	11,432,044	18,300,291
CONCRETE PRODUCTS	15	290	11	301	1,112,983	101,128	5,687,870	5,340,006	11,129,004
OTHER INDUSTRIES (11)	7	270	16	286	1,258,672	555,916	523,333	6,092,038	7,171,287
PRODUCTS OF PETROLEUM AND COAL (12)	4	768	54	822	4,178,154	1,894,769	50,505,854	35,779,098	88,179,721
CHEMICAL PRODUCTS	15	855	105	960	4,375,014	1,199,862	8,191,321	14,502,633	23,893,816
GASES, COMPRESSED	4	80	13	93	337,621	37,688	295,854	1,075,778	1,409,320
OTHER INDUSTRIES (13)	11	775	92	867	4,037,393	1,162,174	7,895,467	13,426,855	22,484,496
MISCELLANEOUS MANUFACTURING INDUSTRIES	21	146	15	161	540,023	53,838	1,263,924	1,163,655	2,481,417
FABRICATED PLASTIC PRODUCTS	4	33	3	36	135,563	18,726	664,197	340,215	1,023,138
SIGNS, ELECTRIC, NEON AND OTHER	10	75	9	84	292,873	22,898	323,746	614,183	960,827
OTHER INDUSTRIES (14)	7	38	3	41	111,587	12,214	275,981	209,257	497,452
OTHER MAJOR GROUPS (15)	3	23	4	27	98,580	3,394	185,423	258,036	446,853
GRAND TOTALS - EDMONTON	358	12,603	2988	15,591	56,894,840	5,955,473	220,425,419	144,530,018	370,910,910

1. INCLUDES - ANIMAL OILS AND FATS 1, FRUIT AND VEGETABLE PREPARATIONS 1, FLOUR MILLS 1, PREPARED BREAKFAST FOODS 1, BISCUITS AND CRACKERS 1, MALT LIQUORS (BREWRIES) 2, CONFECTION-
ERY, COCOA, ETC. 2
2. INCLUDES - LEATHER GLOVES AND MITTENS 1, LEATHER TANNERIES 1, MISCELLANEOUS LEATHER GOODS 1
3. INCLUDES - SYNTHETIC TEXTILES AND SILK 1, CANVAS PRODUCTS 4, EMBROIDERY 2
4. INCLUDES - OTHER KNITTED GOODS 2, FUR GOODS 2
5. INCLUDES - PLYWOOD AND VENEER MILLS 1, BOXES, BASKETS AND CRATES 2, MORTICIANS' GOODS 1, MISCELLANEOUS WOOD-USING INDUSTRIES, N.E.B. 2, WOOD PRESERVATION 1, EXCELSIOR 1
6. INCLUDES - PAPER BOXES AND BAGS 2, PULP AND PAPER MILLS 1, ROOFING PAPER 1, MISCELLANEOUS PAPER PRODUCTS 4
7. INCLUDES - LITHOGRAPHING 1, ENGRAVING, STEREOTYPING AND ALLIED INDUSTRIES 2
8. INCLUDES - AGRICULTURAL IMPLEMENTS 1, FABRICATED AND STRUCTURAL STEEL 2, HARDWARE, TOOLS AND CUTLERY 1, PRIMARY IRON AND STEEL 1, WIRE AND WIRE GOODS 2
9. INCLUDES - AIRCRAFT AND AIRCRAFT PARTS 2, MOTOR VEHICLE PARTS AND ACCESSORIES 2, RAILROAD AND ROLLING STOCK EQUIPMENT 1
10. INCLUDES - BRASS AND COPPER PRODUCTS 1, JEWELLERY AND SILVERWARE 1
11. INCLUDES - CEMENT 1, BRICK AND TILE 1, GLASS PRODUCTS 1, STONE PRODUCTS 1, MISCELLANEOUS NON-METALLIC MINERAL PRODUCTS 2
12. INCLUDES - PETROLEUM REFINING AND PRODUCTS 2, LUBRICATING OILS AND GREASES 1
13. INCLUDES - ACIDS, ALKALIS AND SALTS 1, MEDICINAL AND PHARMACEUTICAL PREPARATIONS 1, PAINTS AND VARNISHES 1, SOAPS 2, PRIMARY PLASTICS 4, MISCELLANEOUS CHEMICAL PRODUCTS, N.E.S. 2
14. INCLUDES - SCIENTIFIC AND PROFESSIONAL INSTRUMENTS AND EQUIPMENT 3, TOYS AND GAMES 1, MISCELLANEOUS MANUFACTURING INDUSTRIES, N.E.B. 1, STAMPS AND STENCILS, RUBBER AND METAL 1
N.E. ARTIFICIAL 1
15. INCLUDES - RUBBER PRODUCTS - RUBBER GOODS 1
ELECTRICAL APPARATUS - MISCELLANEOUS ELECTRICAL PRODUCTS 2

TABLE 14. PRELIMINARY PRINCIPAL STATISTICS, MANUFACTURING INDUSTRIES

MEDICINE HAT --- 1957

	ESTABLISH- MENTS NO.	MALE NO.	FEMALE NO.	TOTAL NO.	SALARIES AND WAGES \$	COST OF FUEL AND ELECTRICITY \$	COST OF MATERIALS \$	VALUE OF PRODUCTS NET \$	GROSS \$
FOODS AND BEVERAGES	12	287	47	334	988,027	66,996	9,578,455	2,923,755	12,569,206
FLOUR AND FEED MILLS	3	198	30	228	673,897	43,840	8,629,803	2,343,586	11,017,229
BREAD AND OTHER BAKERY PRODUCTS	3	16	8	24	61,778	3,111	90,481	101,390	194,982
CARBONATED BEVERAGES	3	18		18	52,440	6,594	157,250	188,102	351,946
OTHER INDUSTRIES (1)	3	55	9	64	199,912	13,451	700,921	290,677	1,005,049
WOOD PRODUCTS (2)	4	8	1	9	19,246	351	33,858	16,353	50,562
PRINTING AND PUBLISHING (4)	3	47	12	59	199,462	3,224	91,758	384,535	479,517
IRON AND STEEL PRODUCTS (3)	4	62	3	65	192,300	5,397	138,894	405,001	549,292
NON-METALLIC MINERAL PRODUCTS	6	261	60	321	890,323	86,284	158,362	1,812,015	2,056,661
CHEMICAL PRODUCTS	3	310	19	329	1,424,757	320,194	3,508,494	831,462	4,660,150
MISCELLANEOUS INDUSTRIES (5)	5	9		9	17,338	960	20,557	29,398	50,915
GRAND TOTALS - MEDICINE HAT	37	984	142	1,126	3,731,453	483,406	13,530,378	6,402,519	20,416,303

1. INCLUDES - DAIRY PRODUCTS 2, MISCELLANEOUS FOODS, N.E.S. 1
 2. INCLUDES - SAW, DOOR AND PLANING MILLS 1, FURNITURE (INCLUDING METAL FURNITURE) 3
 3. INCLUDES - HEATING AND COOKING APPARATUS 1, IRON CASTINGS 1, MACHINE SHOPS 1, MISCELLANEOUS IRON PRODUCTS 1
 4. INCLUDES - COMMERCIAL PRINTING 2, PUBLISHING AND PRINTING 1
 5. INCLUDES - TRANSPORTATION EQUIPMENT 1, MISCELLANEOUS INDUSTRIES, N.E.S. 3

TABLE 15. PRELIMINARY PRINCIPAL STATISTICS, MANUFACTURING INDUSTRIES

LETHBRIDGE --- 1957

	ESTABLISH- MENTS NO.	MALE NO.	FEMALE NO.	TOTAL NO.	SALARIES AND WAGES \$	COST OF FUEL AND ELECTRICITY \$	COST OF MATERIALS \$	VALUE OF PRODUCTS NET \$	GROSS \$
FOODS AND BEVERAGES	18	613	166	779	2,302,020	244,758	6,820,361	6,779,401	13,844,520
BUTTER FACTORIES	3	128	33	161	518,998	47,160	1,847,965	882,459	2,777,584
BREAD AND BAKERY PRODUCTS	5	96	31	127	389,448	47,572	521,371	629,700	1,198,643
OTHER INDUSTRIES (1)	10	389	102	491	1,393,574	150,026	4,451,025	5,267,242	9,868,293
WOOD PRODUCTS	9	53	3	56	174,592	3,982	263,099	248,609	515,690
FURNITURE, INC. METAL FURNITURE	6	21	1	22	53,309	1,203	77,946	87,235	166,384
OTHER INDUSTRIES (2)	3	32	2	34	121,283	2,779	185,153	161,374	349,306
PRINTING, PUBLISHING AND ALLIED PRODUCTS	3	91	20	111	428,129	4,714	210,279	817,805	1,032,798
IRON AND STEEL PRODUCTS	8	119	2	121	456,265	20,040	1,559,266	930,447	2,509,753
NON-METALLIC MINERAL PRODUCTS	3	37	1	38	128,262	15,254	273,427	296,494	585,175
MISCELLANEOUS MANUFACTURING INDUSTRIES SIGNS, NEON, ETC.	4	20	1	21	87,558	4,188	48,529	92,337	145,054
OTHER MAJOR GROUPS (3) - TOTALS	5	38	14	52	146,252	6,760	314,468	161,154	482,382
GRAND TOTALS - LETHBRIDGE	50	971	207	1,178	3,723,078	299,696	9,489,429	9,326,247	19,115,372

1. INCLUDES - SLAUGHTERING AND MEAT PACKING 2, SAUSAGE AND SAUSAGE CASINGS 1, FRUIT AND VEGETABLE PREPARATIONS 2, FLOUR MILLS 1, CARBONATED BEVERAGES 2, MALT LIQUORS (BREWERIES) 1, MACARONI, SPAGHETTI 1
 2. INCLUDES - SAW, DOOR AND PLANING MILLS 2, MISCELLANEOUS WOOD PRODUCTS, N.E.S. 1
 3. INCLUDES - TEXTILES, EXCEPT CLOTHING - CANVAS PRODUCTS 1
 - CLOTHING, TEXTILE AND FUR - CLOTHING, WOMEN'S FACTORY 1, OTHER KNITTED GOODS 1
 - TRANSPORTATION EQUIPMENT - MOTOR VEHICLE PARTS AND ACCESSORIES 1
 - CHEMICAL PRODUCTS - GASES, COMPRESSED 1

TABLE 16. PRELIMINARY PRINCIPAL STATISTICS, MANUFACTURING INDUSTRIES

RED DEER --- 1957

	ESTABLISH- MENTS NO.	MALE NO.	FEMALE NO.	TOTAL NO.	SALARIES AND WAGES \$	COST OF FUEL AND ELECTRICITY \$	COST OF MATERIALS \$	VALUE OF PRODUCTS NET \$	GROSS \$
FOODS AND BEVERAGES	9	145	40	185	509,614	60,634	3,272,116	1,665,898	4,998,648
DAIRY FACTORIES	3	65	18	83	224,559	33,412	2,635,861	759,248	3,428,521
OTHER INDUSTRIES (1)	6	80	22	102	285,055	27,222	636,255	906,650	1,570,127
WOOD PRODUCTS (2)	4	12		12	40,249	3,628	88,515	45,756	137,899
PRINTING, PUBLISHING AND ALLIED PRODUCTS	3	25	6	31	128,248	3,436	34,918	206,271	244,625
NON-METALLIC MINERAL PRODUCTS	3	18	3	21	72,376	12,379	273,773	232,086	518,238
OTHER MAJOR GROUPS (3) - TOTALS	3	47	12	59	194,392	6,781	603,240	541,956	1,151,977
GRAND TOTALS - RED DEER	22	247	61	308	944,879	86,858	4,272,562	2,691,967	7,051,387

1. INCLUDES - PREPARED STOCK AND POULTRY FEEDS 2, BREAD AND OTHER BAKERY PRODUCTS 1, CARBONATED BEVERAGES 1, MALT LIQUORS (BREWERIES) 1, MISCELLANEOUS FOODS, N.E.S. 1
 2. INCLUDES - SAW, DOOR AND PLANING MILLS 1, FURNITURE (INCLUDING METAL FURNITURE) 1, MISCELLANEOUS WOOD-USE INDUSTRIES 1
 3. INCLUDES - IRON AND STEEL PRODUCTS - HARDWARE, TOOLS AND CUTLERY 1
 ELECTRICAL APPARATUS AND SUPPLIES - HEAVY ELECTRICAL MACHINERY AND EQUIPMENT 1
 MISCELLANEOUS INDUSTRIES - SCIENTIFIC AND PROFESSIONAL INSTRUMENTS AND EQUIPMENT 1

TABLE 17. SELECTED ITEMS OF IMPORTS CLEARED AT CUSTOMS' PORTS LOCATED IN ALBERTA, 1952 AND 1957

	QUANTITY		VALUE	
	1952	1957	1952 \$	1957 \$
BOOTS AND SHOES, MEN'S, LEATHER PR.	21,432	35,589	122,190	220,148
BOOTS AND SHOES, WOMEN'S, LEATHER PR.	109,987	55,086	371,685	250,397
GLOVES, MITTS, LEATHER, N.O.P.	-	-	43,544	80,978
HARNESS AND SADDLERY	-	-	18,933	81,872
MEAT PIES, FROZEN LBS.	-	16,500	-	5,676
BLANKETS, WOOL, N.O.P. LBS.	17,588	36,807	22,285	50,986
OILCLOTH, FLOOR LINOLEUM LBS.	2,413,175	1,718,716	436,081	312,079
POLES, TELEGRAPH AND TELEPHONE, AND PILING NO.	4,371	13,501	52,129	248,412
FIR M. FT.	805	3,262	74,624	283,316
CHARCOAL MADE FROM WOOD TONS	1	30	68	2,773
FURNITURE, HOUSE, OFFICE, CABINET OR STORE FURNITURE OF WOOD OR OTHER MATERIAL	-	141,461	-	554,124
TEST BOARD AND STRAWBOARD OR JUTE BOARD, KRAFT BOARD OR PULP BOARD, FOR THE MANUFACTURE OF SHIPPING CONTAINERS LBS.	-	202,669	-	14,788
BUILDING BOARD AND INSULATING BOARD, MADE FROM WOOD PULP OR OTHER VEGETABLE FIBRE LBS.	2,368,653	5,280,945	223,434	609,406
FELTBOARDS AND ROOFING FELT, NOT COATED OR IM- PREGNATED LBS.	166,344	2,131,259	6,641	71,607
BAGS OR SACKS, OF PAPER LBS.	12,472	31,006	3,423	11,503
CONTAINERS, MANUFACTURED FROM FIBREBOARD OR PAPER BOARD, N.O.P. LBS.	70,502	173,554	16,558	41,566
SHIPPING CONTAINERS OF FIBREBOARD OR PAPER BOARD LBS.	21,528	194,316	2,001	21,510
LABELS, TAGS, AND OTHER TICKETS	-	-	12,783	24,754
BARS AND RODS; BILLETS, WEIGHING LESS THAN 60 POUNDS PER LINEAL YARD, COLD ROLLED, DRAWN, REELED, TURNED OR GROUND, N.O.P. CWT.	1,850	5,707	13,621	42,663
BARS AND RODS; BILLETS, WEIGHING LESS THAN 60 POUNDS PER LINEAL YARD, HOT ROLLED, VALUED AT NOT LESS THAN 4 CENTS PER POUND, N.O.P. CWT.	18,005	10,034	122,184	64,617
RODS, HOT ROLLED, IN THE COIL, NOT OVER .375 INCH IN DIAMETER, FOR WIRE CWT.	-	27,391	-	179,185
WELDING RODS OR WELDING WIRES, OF ALL KINDS CWT.	1,940	6,570	61,597	252,737
PLATES, HOT OR COLD ROLLED, FLANGED, DISHED OR CURVED, N.O.P. CWT.	1,729	7,819	21,325	113,091
SHEETS, PLATES, HOOP, BAND OR STRIP, HOT ROLLED NOT LESS THAN 5 CENTS PER POUND, N.O.P. CWT.	63,769	429,929	425,762	2,590,470
SKELP OF IRON OR STEEL, HOT ROLLED, FOR PIPES AND TUBES, NOT MORE THAN 14 INCHES IN WIDTH CWT.	-	9,128	-	48,944
SKELP OF IRON OR STEEL, HOT ROLLED, FOR PIPES AND TUBES, MORE THAN 14 INCHES IN WIDTH CWT.	-	521,122	-	2,870,880
ANGLES, BEAMS, CHANNELS, COLUMNS, ETC, AND OTHER SHAPES, HOT ROLLED ONLY, WEIGHING NOT LESS THAN 35 POUNDS PER LINEAL YARD CWT	79,053	324,685	398,300	1,857,766
ANGLES, BEAMS, CHANNELS, COLUMNS, ETC, PILING, AND OTHER SHAPES, HOT ROLLED ONLY, N.O.P. CWT.	31,633	67,744	192,508	431,614
PIPES AND TUBES, WROUGHT, FOR BOILERS, PULP MILL DIGESTERS OR VESSELS FOR OIL REFINING CWT.	-	2,964	170,612	73,520
PIPES AND TUBES, WROUGHT, WELDED OR SEAMLESS, MORE THAN 10 1/2 INCHES IN DIAMETER, N.O.P. CWT.	-	44,266	2,754,313	461,323
PIPES AND TUBES, WROUGHT, WELDED OR SEAMLESS, NOT MORE THAN 10 1/2 INCHES IN DIAMETER CWT.	-	36,880	1,685,483	386,168
IRON OR STEEL CASING, TUBING AND DRILL PIPE, FOR USE IN CONNECTION WITH WATER, NATURAL GAS OR OIL WELLS CWT.	-	1,483,860	10,349,862	15,838,718

	QUANTITY		VALUE	
	1952	1957	1952 \$	1957 \$
WIRE AND WIRE ROPE OR CABLE, COATED OR NOT, N.O.P. CWT.	1,861	2,724	50,625	57,022
WIRE OF IRON OR STEEL, N.O.P. CWT.	7,079	4,196	53,169	51,930
WIRE ROPE, FOR USE IN DRILLING FOR WATER, NATURAL GAS AND OIL, ETC.	-	-	213,768	62,851
WELDED WIRE FABRIC, FOR CONCRETE OR OTHER REINFORCING	-	4,559	-	49,339
RAKES, HORSE OR POWER, AND PARTS NO.	834	1,345	156,370	378,651
RAKES, N.O.P. DOZ.	703	1,998	6,882	21,095
HAY PRESSES AND PARTS NO.	591	1,168	776,438	1,255,239
HINGES AND BUTTS, OF IRON OR STEEL, COATED OR NOT; HINGE AND BUTT BLANKS, N.O.P. LBS.	44,156	93,146	22,106	57,402
WIRE NAILS, 1 INCH OR MORE IN LENGTH, OF IRON OR STEEL, COATED OR NOT CWT.	23,813	40,506	170,525	314,718
NUTS AND BOLTS, WASHERS, RIVETS, OF IRON OR STEEL, COATED OR NOT, N.O.P.; NUT AND BOLT BLANKS LBS.	308,485	251,526	112,949	112,073
HARDWARE, VIZ- BUILDERS' CABINET-MAKERS', UPHOL- STERERS' AND CARRIAGE HARDWARE, N.O.P.	-	-	55,257	119,453
WELL-DRILLING MACHINERY AND APPARATUS, AND PARTS, FOR USE IN DRILLING FOR WATER, NATURAL GAS OR OIL, ETC.	-	-	39,389,597	37,320,209
CONCRETE MIXING MACHINES, N.O.P., AND PARTS NO.	52	32	60,659	63,438
LOGGING MACHINERY, ETC.	-	-	18,800	75,998
CRANES, HOISTS AND DERRICKS, N.O.P., OF A CLASS OR KIND MADE IN CANADA	-	267	-	682,601
CRANES, HOISTS AND DERRICKS, N.O.P., PARTS OF	-	-	-	133,426
SAWMILL MACHINERY, ETC.	-	-	3,641	56,652
SCRAPERS, RAILWAY OR ROAD	-	-	215,063	256,759
AIR-CONDITIONING APPARATUS AND PARTS, INCLUDING BLOWERS AND VENTILATING MACHINERY, N.O.P.	-	-	518,207	524,798
CONVEYING EQUIPMENT AND PARTS	-	-	336,080	610,079
STONE CRUSHING MACHINERY AND PARTS	-	-	387,225	979,000
AIR CONDITIONERS, ROOM SIZE, AND PARTS	-	360	-	55,850
BASINS, CLOSETS, LAVATORIES, URINALS, SINKS AND LAUNDRY TUBS, OF IRON OR STEEL, COATED OR NOT	-	-	16,982	75,468
HOLLOW-WARE, OF IRON OR STEEL, COATED OR NOT, N.O.P.	-	-	109,967	368,133
AXES DOZ.	1,196	2,509	13,119	30,116
TOOLS, N.O.P.	-	-	266,749	385,693
BOTTLES OR CYLINDERS OF STEEL, FOR GAS	-	-	113,626	152,300
DRUMS, CYLINDERS, BARRELS AND TANKS, N.O.P.	-	-	301,798	251,539
FURNITURE, HOUSE, OFFICE, CABINET OR STORE, OF METAL, IN PARTS OR FINISHED	-	-	135,564	607,913
VALVES, IRON OR STEEL, N.O.P., AND PARTS	-	-	1,516,324	2,287,402
BOILERS, DOMESTIC (HOT WATER FURNACES)	-	-	17,224	30,683
FURNACES, DOMESTIC, HOT AIR NO.	535	4,840	97,706	549,972
INDUSTRIAL FURNACES AND PARTS	-	-	51,993	223,055
WATER HEATERS, GAS NO.	-	7,285	-	393,486
ALUMINUM ANGLES, CHANNELS, BEAMS, TEES, AND OTHER ROLLED OR DRAWN SECTIONS AND SHAPES CWT.	42	550	4,565	38,317
ALUMINUM PIPES AND TUBES CWT.	133	582	8,227	26,764
ALUMINUM KITCHEN OR HOUSEHOLD HOLLOW-WARE, N.O.P.	-	-	18,364	86,377
VALVES, BRASS	-	-	138,179	210,994
PLUMBERS BRASS GOODS	-	-	-	157,850

	QUANTITY		VALUE	
	1952	1957	1952 \$	1957 \$
SWITCHES, SWITCHBOARDS AND CIRCUIT BREAKERS, AND COMPLETE PARTS, N.O.P.	-	-	144,878	133,477
TELEGRAPH APPARATUS, ELECTRIC AND COMPLETE PARTS	-	-	138,091	441,322
TRANSFORMERS AND COMPLETE PARTS, N.O.P.	-	-	30,888	141,998
WIRE, SINGLE OR SEVERAL, COVERED, INCLUDING CABLE, N.O.P., NON-FERROUS	-	-	37,245	352,561
BUILDING BLOCKS, PARTITION HOLLOW TILE AND FIRE PROOF BUILDING TILE	-	-	9,597	76,372
TABLEWARE OF CHINA, PORCELAIN, SEMI-PORCELAIN, ETC.	-	-	626,989	583,587
GLASS TABLEWARE, OTHER CUT GLASSWARE	-	-	66,972	132,583
SHEET GLASS, TRANSPARENT, IN RECTANGLES, NOT OVER 34 OZ. PER SQ. FT. SQ. FT.	2,292,574	529,462	175,286	59,976
PLATE GLASS, N.O.P. SQ. FT.	121,689	179,529	57,997	114,364
GLASS BALLS AND MARBLES FOR THE MANUFACTURE OF GLASS FIBRES OR GLASS YARN	-	-	-	87,733
GLASS BLOCKS	-	-	50,655	139,187
ASPHALTUM OR ASPHALT	4,088	209,582	10,349	176,576
ASPHALTUM OIL FOR PAVING PURPOSES	-	327,837	-	36,236
PUMICE, PUMICE STONE, LAVA AND CALCAREOUS TUFA, GROUND	-	-	703	26,570
SAND, SILICA	601,590	889,261	75,113	164,707
ROOFING GRANULES	115,673	152,754	92,717	193,141
MINERAL WOOL	23,580	105,489	1,439	16,154
VERMICULITE, CRUDE	-	-	51,253	55,852
PREPARATIONS OR CHEMICALS, WEED-KILLING (INCLUDING 2-4-D)	-	-	291,164	144,055
PREPARATIONS OR CHEMICALS, NON-ALCOHOLIC, FOR DISINFECTING, DIPPING OR SPRAYING, N.O.P.	-	-	148,808	119,627
BLACK, CARBON	800	118,270	144	19,650
CALCIUM CHLORIDE	821	9,810	1,001	16,589
CHLORIDE OF LIME	145	677	3,032	16,474
SODIUM ASH OR BARILLA	-	3,620,700	-	146,913
SODA, CAUSTIC, N.O.P.	282,278	7,547,400	15,058	242,869
SODIUM PHOSPHATE, N.O.P.	2,326	217,870	478	33,947
ETHYLENE GLYCOL AND MIXTURES OF ETHYLENE GLYCOL, FOR USE IN THE MANUFACTURE OF ANTI-FREEZING COMPOUNDS ..	218,500	1,436,908	35,171	155,416
GLYCERINE, FOR THE MANUFACTURE OF EXPLOSIVES	-	580,480	-	146,715
SYNTHETIC RESINS WITHOUT ADMIXTURE	-	-	3,043	352,374
SYNTHETIC RESIN COMPOSITIONS, N.O.P.	-	-	237	137,926
SYNTHETIC RESINS OR PROTEIN PLASTICS IN BARS, RODS, SHEETS, PLATES, STRIP, FILM, TUBING OR OTHER PRIMARY SHAPES, N.O.P., WHETHER COATED OR DECORATED OR NOT	-	-	22,273	129,974
FISHING TACKLE, N.O.P.	-	-	78,249	215,694
TRUNKS, VALISES, HAT BOXES, CARPET BAGS AND TOOL BAGS	-	-	37,160	47,977
BOATS, OPEN, PLEASURE; SAIL BOATS, SKIFFS AND CANOES	28	416	5,705	67,018
WHEELBARROWS, HAND TRUCKS AND HAND CARTS	2,903	4,167	65,894	96,208
TRAILERS FOR MOTOR VEHICLES	552	1,007	955,450	1,772,319
INCUBATORS AND BROODERS AND PARTS	1,202	1,962	51,268	146,896
MEASURING RULES AND TAPES OF ANY MATERIAL	-	-	37,605	53,079

TABLE 18. MATERIALS AND SUPPLIES
USED BY MANUFACTURING FIRMS OF ALBERTA

1956

The following is a list of materials and supplies used by Alberta manufacturing firms in 1956. The list is not complete. Some items of small value have been omitted. Some firms failed to submit detailed lists of materials used. The figures presented as to quantity and value will therefore be, in every case, minimum figures.

The Statistics Act precludes the publication of figures either quantity or value, if the specific item is used by less than three firms. An asterisk in the value column indicates items affected by this regulation.

QUANTITY			QUANTITY		
VALUE			VALUE		
\$			\$		
Acetate	Lbs.	*	Agerite White	Lbs.	*
Acetate Flake -			Aggregate, Light-weight		351,887
Cellulose	Lbs.	*	Alcohol	Pf.gals	*
Acetic Anhydride		*	Alcohol and Glycol		*
Acetone	Lbs.	50,475	Alcohol - Methyl	Imp.gals.	*
Acetone, Pigment -			Alfalfa	Tons	361
Finish Oils		*	Alloys, Gold	Fine Oz.Troy	*
Acetylene	Cu.ft.	929,636	Alum	Tons	*
Acid, Acetic	Lbs.	*	Aluminum		*
Acid, Formic	Tons	*	Aluminum (extruded)		*
Acid, Hydrochloric or			Aluminum (other than		
Muriatic, 100%	Lbs.	*	aluminum castings		
Acid, Lactic	Lbs.	21,257	and sheet		
Acid, Nitric	Tons	*	aluminum)	Lbs.	90,567
Acid, Phosphoric	Lbs.	2,582,994	Aluminum, Scrap	Lbs.	*
Acid, Sulphuric - all			Aluminum, Sheet	Lbs.	438,194
grades, including			Aluminum Sulphate	Cwt.	*
oleum (as 100%)	Lbs.	*	Amine	Lbs.	*
Acid Tartaric	Lbs.	407	Ammonia	Tons	27,640
Acrylic Rod	Ft.	*	Ammonia (bicarbonate of). Lbs.		*
Activated Alumina	Lbs.	*	Ammonium Chloride	Lbs.	*
Additive	Lbs.	*	Ammonium Nitrate	Lbs.	*
Additive, #2	Lbs.	*	Ammonium Phosphate	Lbs.	*
Additive, B.A. #175 ...	Lbs.	*	Ammonium Sulphate	Lbs.	*
Additives, Anti-stalling ..	Imp.gals.	*	Animal Oils and Fats		*
Additives, Specialty			Animals Slaughtered		
Plant Products		*	(cattle, calves, hogs,		
Ad-mix (Ornite, Ferrograut-			horses, other)	Lbs.	394,118,569
Darex)		*	Anodes	Lbs.	*
Agents, Air Entraining..		*			

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

	QUANTITY	VALUE \$		QUANTITY	VALUE \$
Antibiotics	Tons	38	32,802	Blowers	*
Antimony	Lbs.		*	Bolts	277,065
Appliances - Surgical and Orthopaedic			*	Bolts - Nuts - Rivets - Screws	162,695
Arsenic	Lbs.		*	Bolts - Softwood	Cords
Asbestos Fibre	Lbs.		*	Bones - Inedible	Lbs.
Asphalt	Tons	24,988	604,795	Borax	Lbs.
Asphalt Base	Gals.		*	Boxboard - (for folding boxes and cartons)	Tons
Asphalt, Varsol, etc. ...			*	Boxboard - (for set-up boxes)	Lbs.
Awning Fabric - Painted..	Yds.	25,296	22,859	Boxes - Post Office - (locks & other parts)	
Awning Fabric - Plain ...	Sq.yds.		*	Boxes and Containers - Battery	537,198
Awning Fabric - Woven ..	Sq.yds.	4,323	4,575	Bran - Shorts - and Middlings	Tons
Awning Hardware, Grommets & Misc. ...			*	Brass and Bronze	Lbs.
Babbitt Metals & Solder ..	Lbs.	385,207	130,926	Brass and Bronze - Scrap..	Lbs.
Bags	No.		*	Brewer's Flakes	Lbs.
Bags - Paper			*	Briquettes - Alchem	Imp.gals.
Bags - Polythene			*	Bushings (finished)	
Baking Powder	Lbs.	31,862	4,732	Butane	Imp.gals.
Barium Sulphate	Lbs.		*	Butter	Lbs.
Barley	Bus.	3,258,880	3,917,773	Butter - Sweet	Lbs.
Barley Malt	Lbs.	23,355,983	1,281,487	Buttermilk (semi-solid) ...	Tons
Bars & Rods - Steel	Tons	26,576	4,208,725	Cable - Battery (copper)..	Ft.
Barytes	Lbs.		*	Calcium	
Beads (for simulated or artificial pearls)			*	Calcium Carbide	Lbs.
Beans - Dry	Lbs.		*	Calcium Carbonate (chalk)	Lbs.
Belting - Rubber	Ft.		*	Calcium Chloride	Tons
Bentonite	Tons		*	Calloid U-14-L	Lbs.
Benzene	Lbs.		*	Canvas - Rubber	Yds.
Billets, Bars and Rods - Steel	Lbs.		125,488	Canvas and Duck	Sq.yds.
Blanks - Metal			*	Carbon and Graphite	
Bleach, Bulk	Lbs.		*	Carbon Dioxide Gas - in cylinders	Lbs.
Blocks, Blanks, Squares and Other Wood			*		
Blood - Dried	Tons	622	41,644		

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

		QUANTITY	VALUE		QUANTITY	VALUE
			\$			\$
Casings, Sausage, Animal			377,304	Clay (from own quarries)..	Tons	*
Casings, Sasuage, Artificial			*	Clay, Ball (imported) ...	Tons	*
Casket Mouldings - Wooden	Lin.ft.		*	Cleaning Materials (all kinds)	Lbs.	475,069 80,113
Castings, Aluminum	Lbs.	160,684	75,772	Cloth, Cotton	Yds.	*
Castings, Iron	Lbs.		*	Cloth, Jute	Yds.	*
Castings, Iron, Grey Malleable	Tons	420	82,417	Cloth, Fibreglass	Sq.yds.	*
Castings, Steel	Tons	506	113,254	Cocoa	Lbs.	18,193 10,423
Catalyst, Filtrol	Lbs.		*	Cocoa (for prepared mixes)	Lbs.	*
Catalyst, Girdler			*	Cocoa Powder, (unsweetened)	Lbs.	*
Catalyst, Platinum	Lbs.		*	Cocoa and Chocolate Preparations (n.o.p.) ...		*
Catalyst, Petroleum Cracking	Lbs.		*	Cocanut, Shredded	Lbs.	262,463 46,652
Catalyst, G-3	Tons		*	Coffee Beans, Green ...	Lbs.	*
Catalyst Poly. No. 2 ...	Lbs.		*	Coke	Tons	*
Cellulose Plastics, Cellulose Acetate			*	Coke, Foundry	Tons	2,330 84,307
Cellulose Plastics, Cellulose Acetate Butyrate	Lbs.		*	Colloid	Lbs.	*
Cement, Portland	Bags	3,746,264	3,229,387	Colouring		9,420
Chain Link			*	Colouring, Beer	Gals.	2,964 3,818
Cheese	Lbs.		*	Colouring, Extracts, Nuts, Fruits, etc.		254,344
Cheese, Cheddar (for processing)	Lbs.		*	Compounding Materials..	Imp.gals.	*
Cheese-Melting Salts	Lbs.		*	Compound (for bottle washing, etc.)		*
Chillproofing Materials...	Lbs.		*	Compounds, Sealing		12,994
China Clay	Lbs.		*	Concentrates (for cordial syrup)		*
Chlorine, Liquid	Lbs.	402,745	22,218	Concentrates (all kinds).	Tons	2,513 242,308
Chocolate	Lbs.	11,736	6,163	Concentrates, Flavours, Extracts, etc. (un-sweetened)		228,254
Chocolate Chippits	Lbs.		*	Condensate	Gals.	*
Chocolate, Sweetened (dark)	Lbs.		*	Condensing Water		*
Citric Acid	Lbs.	46,834	15,819	Conditioning Agents		*
Clarifying & Filtering Materials	Lbs.	213,838	24,791	Controls, Heating		*
Clay	Cu.yds.		*	Copper, Scrap	Tons	*
				Copper, Sheet	Lbs.	54,500 34,875

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

	QUANTITY	VALUE		QUANTITY	VALUE	
		\$			\$	
Copper - Other Than Sheet or Wire	Lbs.	4,226	2,556	Envelopes	170,881	
Corn	Tons	2,278	173,525	Ethane	M.cu.ft.	*
Covers - Battery Cell ...		*		Ethyl Antinock Compound		*
Cream	Gals.	18,609	429	Excelsior or Wood- Wool	Lbs.	*
Creosote - Distillate Coal-tar	Gals.	*		Extracts, Essences and Flavours		25,278
Creosote Petroleum Mixture	Imp.gals.	*		Extrusions, Aluminum ...		*
Crowns		440,292		Fabrics, Other		216,720
Crude Naphtha - (60 A.P.I.) (in its natural state)	Imp.gals.	*		Fabrics, Upholstering and Studio Couch		630,941
Cullet	Tons	*		Fasteners (zippers)		*
Cushioning - Sponge Rubber		148,161		Fat	Lbs.	*
Denaturants (Wood Alcohol and Other)	Gals.	*		Feed, Cereal	Tons	*
Diammonium Phosphate...	Lbs.	*		Feed Stocks, Butylene ...	Imp.gals.	*
Diamonds - Industrial...		*		Feed Stocks, Petro- chemical	Imp.gals.	*
Diatomaceous Earth	Tons	*		Feldspar	Tons	*
Di Glycol Laurate	Lbs.	*		Felt	Lbs.	1,795 1,476
Doughnut and Pastry Mixtures	Lbs.	942,704	148,011	Felt, Paper Makers' (wool)	Lbs.	*
Dowtherm	Imp.gals.	*		Felts (for roofing, untreated)	Tons	8,164 680,661
Dowtherm A	Lbs.	*		Ferro-alloys	Tons	125 28,694
Drill	Sq.yds.	*		Ferrochrome	Tons	*
Dyes (for Gasoline).....	Lbs.	11,174	12,200	Ferromanganese	Tons	*
Eavestroughing & Elbows..		*		Ferromolybdenum	Tons	*
Egg Yolk (powdered)	Lbs.	*		Ferrosilicon	Tons	*
Eggs - Frozen	Lbs.	325,456	100,205	Fibreglass Matt	Rolls	*
Eggs, Liquid (not frozen)..	Lbs.	*		Fibres, Other Synthetic - Nylon	Lbs.	*
Eggs - In Shell	Doz.	425,439	137,111	Fibres, Rayon Staple ..	Lbs.	*
Eggs - Substitutes	Lbs.	2,487	2,024	Fillings For Pies, (apple)	Lbs.	63,160 9,082
Egg Powder	Lbs.	*		Fillings For Pies, (other)	Lbs.	93,036 35,457
Electrodes		*		Film, Paper, Developers, etc.		*
Electrodes - Furnace		*		Film, Transparent	Lbs.	288,268 174,315
Electrotypes		*				
Engraving Material		*				

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

QUANTITY			QUANTITY		
		VALUE			VALUE
		\$			\$
Filtering Materials		*	Gas - Raw	M.cu.ft. 45,988,030	2,307,831
Filtrol		*	Gasoline - Absorption ...	Imp.gals. 18,137,103	1,478,165
Firebrick, Fireclay and Other Refractories ...		331,126	Gasoline - Casinghead ..	Imp.gals.	*
Flags and Flares (for school buses)		*	Gelatine	Lbs. 17,683	12,755
Flax (for breakfast foods)		*	Gins - Canadian		*
Flaxseed	Bus.	*	Gin Ingredients.....	Lbs.	*
Flour (for prepared mixes)	Lbs.	*	Glass		357,475
Flour (prepared cake mixtures)	Lbs. 32,480	5,382	Glass, Putty, Paint, etc.		197,923
Flour (for breakfast foods)		*	Glucose	Lbs. 150,948	35,530
Flour - Corn	Lbs.	*	Glue		17,174
Flour - Hard Wheat (bread flour) ...	Bbls. 384,562	2,306,818	Glue and Other Adhesives		50,515
Flour - Malt	Lbs. 58,200	8,550	Glue (for couplers and tubes)	Lbs.	*
Flour - Other (rye, cornmeal, etc.)	Lbs. 1,231,278	64,535	Glycerine	Lbs.	*
Flour - Soft Wheat (cake flour)	Cwt. 38,914	186,714	Glycol	Lbs.	*
Flour - Soya	Lbs. 198,667	23,188	Glycol - Ethylene	Lbs.	*
Flour - Wheat	Lbs. 11,020,302	408,298	Glycol - Propylene	Lbs. 2,303	726
Fluorspar	Tons 190	14,578	Grains - Brewers' and Distillers'	Tons 62	8,418
Foam Retainers	Lbs. 2,250	5,625	Grains - Mixed.....	Tons 2,179	71,845
Foam Suppressants		*	Grains - Other	Tons 2,213	59,601
Forgings		*	Granules (black slag, natural, etc.)	Tons 15,973	544,944
Formaldehyde - Liquid ..	Gals.	*	Graphite	Tons	*
Frames - Spectacle (grinding and polishing materials, rough blanks, etc.)		*	Grass - Cereal	Tons	*
Fruits - Dried and Fresh, Canned and Frozen		330,824	Grease	Lbs.	*
Fuller's Earth (Attapulgus clay, etc.).	Lbs. 25,700	1,153	Grey Cloths		*
Furnaces, Purchased ...	No.	*	Grinding Compound		*
Furs and Skins (dressed)		*	Grit and Gravel	Tons	*
Gas - Natural	M.cu.ft. 5,631,946	782,635	Groundwood (unbleached No's 1 and 2)	Tons	*
			Gum Arabic	Lbs.	*
			Gums (for paper and board mill operations)..	Lbs.	*
			Gypsum	Lbs.	*
			Gypsum - Crude	Tons 65,331	722,844

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

	QUANTITY	VALUE		QUANTITY	VALUE
		\$			\$
Hair - Rubberized			Iron and Steel - All		
Curled		3,520	Kinds (including		
Hard Board		61,182	scrap)		3,577,441
Hardware - Furniture			Iso Propanol		*
and Cabinet, etc.		71,867	Ivory Nut and Other		
Hardware - Insulator ...		*	Meals	Lbs.	*
Hides and Skins		*	Jackposts - Iron		
Honey	Lbs.	28,749	and Steel		*
Hops - Blended	Lbs.	*	Jams, Jellies and		
Hops - Canadian	Lbs.	109,637	Marmalades	Lbs.	141,330
Hops - Imported	Lbs.	97,109			24,685
Humidifiers		*	Kalicrete		*
Hydraulic Equipment ...		*	Kaolin (imported clay) ...	Tons	*
Hydrogen	Cu.ft.	*	Ketone	Imp.gals.	*
Hydrogen Sulphide		*	Kontol	Imp.gals.	1,555
Infusorial Earth	Lbs.	*			15,890
Ingots - Aluminum	Tons	53	Kraft Laminated Paper ...	Rolls	*
Ingots - Brass and			Lard	Lbs.	1,965,207
Bronze	Lbs.	36,186			250,781
Ingots - Nickel,			Lath Clips	No.	*
Cathodes, Shot,			Lath and Wire		*
etc.	Tons	*	Lead	Lbs.	22,198
Ingots - Steel	Tons	*			4,650
Ingots - Tin (other			Lead - Antimonial	Lbs.	3,786,176
than phosphor tin)	Lbs.	*			640,673
Ingots and Slabs,			Lead - Arsenical	Lbs.	*
Zinc	Lbs.	*	Lead - Battery Plates		
Inhibitor	Lbs.	62,377	and Lugs	Lbs.	*
Ink	Lbs.	168,092	Lead - Pig (pure)	Lbs.	3,909,605
Ink - Printing	Lbs.	*			602,215
Instrument - Pressure			Lead - Scrap		*
Measuring (pressure			Leather - All Types		33,229
gauges, etc.)		*	Lecithin	Lbs.	6,150
Instrument Parts			Legumes and Grasses		
(instrument and related			(for dehydrated meal)...	Tons	2,793
products)		*			44,806
Insulation		*	Legumes and Grasses		
Insulators - Porcelain ..		*	(for sundried meal)....	Tons	648
Insulators - Mechanical .		*			34,679
Insulators - Rubber		*	Lenses - Frames -		
			Spectacles, Complete		
			(contact lenses,		
			spectacle cases, etc.) .		*
			Limbs - Artificial	No.	*
			Lime	Tons	*
			Lime - High Calcium .	Lbs.	*
			Lime - Hydrated	Tons	147,000
					2,028

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

QUANTITY			VALUE		QUANTITY			VALUE	
			\$					\$	
Lime - Quick	Tons		*		Master Batch (concentrated compound of polythene and carbon black)	Lbs.		*	
Limestone	Tons	22,692	142,468		Materials (for draperies) ..	Yds.		*	
Limestone (from own quarries)	Tons		*		Materials Used (men's clothing)		4,362,150		
Limestone Dust	Tons	6,337	77,916		Materials - Stuffing		398,645		
Liner Board (for corrugated boxes and wrappers)	M.sq.ft.	426,248	1,260,116		Matrices		*		
Linings - Cloth	Yds.		*		Matrix Drying Felts		*		
Linoleum			38,536		Mattresses and Pillows (foam rubber)		*		
Liqueurs, Cordials, Wines, etc. (imported) .	Pf.gals.		*		Meal - Bone	Tons	686	59,385	
Litharge	Lbs.		*		Meal - Fish	Tons	912	162,442	
Locks	No.		*		Meal - Legume and Grass (dehydrated)	Tons	2,572	183,894	
Logs, Hardwood (broad-leaved species)			*		Meal - Legume and Grass (sundried)	Tons	672	32,717	
Logs, Softwood (coniferous species)			*		Meal - Lung and Liver ..	Tons		*	
Logs - Veneer - Domestic Hardwoods (Aspen and Poplar)			*		Meal - Meat	Tons	7,646	570,178	
Loops - (for luggage)	No.		*		Meal - Mink	Tons		*	
Lubricants			*		Meal - Rapeseed	Tons		*	
Lumber			363,229		Meal - Sunflower	Tons		*	
Lumber - Rough or Planed - Hardwood (broad-leaved species)			440,596		Meat - For Pies	Lbs.	33,419	14,617	
Lumber - Rough or Planed - Softwood	M.ft.b.m.	142,832	8,236,450		Meat - Raw (horse)			*	
Macaroni, Spaghetti, etc.	Lbs.		*		Meats - Chicken and Turkey	Lbs.		*	
Magnesium Oxide	Lbs.		*		Meats - Dressed, Purchased Fresh or Partially Processed (beef, mutton and lamb, pork, veal, other, and poultry)		2,915,124		
Malt - Canadian	Lbs.		*		Meats (pork, beef, suet, etc.)	Lbs.		*	
Malt - Other (caramel) .	Lbs.		*		Mesh - Iron and Steel	Tons		*	
Malt Extracts & Syrups ...	Lbs.		*		Metal Deactivator	Lbs.		*	
Manganese Acetate	Lbs.		*		Metal - Expanded	Tons		*	
Margarine	Lbs.	44,636	10,494		Metal Fasteners (for couplers)	Lbs.		*	
Margarine Blend	Lbs.		*		Metal Sections			*	
Marshmallow			*		Metal - Type	Lbs.		*	

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

QUANTITY			QUANTITY		
		VALUE			VALUE
		\$			\$
Metals - Powdered		*	Oatmeal, Oat Middlings, and Oat Groats	Tons	785 56,843
Metals - Other Non-ferrous	Lbs.	*	Oats	Tons	17,688 772,020
Methionine	Tons	*	Oil - Absorption	Lbs.	*
Methylene Chloride	Lbs.	*	Oil - Coconut (cooking oils)	Lbs.	199,096 50,159
Mica - Ground	Tons	*	Oil - Core	Imp.gals.	5,936 9,763
Middlings (for breakfast foods)	Lbs.	*	Oil - Cottonseed	Lbs.	48,161 11,957
Milk (for prepared mixes)	Lbs.	*	Oil - Fish	Tons	181 92,953
Milk, Buttermilk, Whey, etc. (powdered)	Tons	254 46,606	Oil - Other Cooking ...	Lbs.	78,596 18,578
Milk and Cream	Gals.	*	Oil - Crude (under 60 A.P.I.)	Imp.gals.	863,895,980 62,742,551
Milk - Condensed and Evaporated	Lbs.	83,559 13,153	Oil - Diesel	Gals.	*
Milk - Powdered	Lbs.	1,936,036 293,411	Oil - Kerosene or Stove Oil	Gals.	*
Milk - Whole and Skimmed	Gals.	14,257,667	Oil - Lean	Gals.	*
Mill Feeds, Bran, Etc....	Tons	1,465 62,965	Oil - Lubricating		13,444
Mincemeat	Lbs.	*	Oil - Mineral	Gals.	*
Mixtures - Mineral	Tons	58 12,290	Oil - Neats' foot		*
Molasses	Lbs.	10,422,451 222,689	Oil - Pine	Gals.	*
Monoethanolamine	Lbs.	29,203 8,795	Oil - Primal D (catalyst carrier)	Gals.	*
Motors		*	Oil - Transformer	Imp.gals.	*
Motors - Electric	No.	*	Oil - Vegetable		*
Moulds (for hardware and tools)		*	Oil - Wheat Germ		*
Mycob.		*	Oilcake Meal	Tons	1,293 98,469
Nails		22,982	Oilcake and Meal, Linseed	Tons	986 73,515
Nails - Roofing	Tons	*	Oilcake and Meal, Soybean	Tons	4,932 428,447
Negatives - Lithographing		*	Ore - Iron	Tons	*
Nickel	Lbs.	*	Ore, Raw Perlite, Asbestos, Cement		*
Nickel Concentrates	Tons	*	Oxide - Iron	Tons	*
N-pentane	Lbs.	*	Oxygen	Cu.ft.	*
Nitrocotton	Lbs.	*	Oxygen - Liquid		*
Nulomoline		*	Oxygen and Acetylene ..		48,069
Nuts (walnuts, pecans, etc.)	Lbs.	280,040 171,366			

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

QUANTITY		VALUE	QUANTITY		VALUE
		\$			\$
Packs - Coil		*	Phosphate - Disodium...		*
Paints - Oils and Varnishes		703,226	Phosphate - Trisodium .. Lbs.	206,800	16,884
Paper - Blue Print, Photostat and Other Sensitized		5,446	Phosphate Rock and Other Phosphates	6,604	154,327
Paper - Corrugated (straw, kraft, etc.).... M.sq.ft.		*	Photographic Material ...		*
Paper - Glassine Lbs.		*	Pigment - Color		*
Paper - Insulation		*	Pigments (prime and extender) - Oils, Resins, Solvents, Driers, Etc.		*
Paper - Kraft Lbs.		*	Pipe and Fittings - Aluminum		*
Paper - Untreated Kraft. Tons	518	71,716	Pipe, Tubing and Fittings - Iron and Steel	3,430	662,724
Paper - Newsprint		2,732,531	Plates		*
Paper - Old and Waste.. Tons		*	Plates - Offset		*
Paper - Other		91,213	Plates - Printing		*
Paper - (for printing) ...		992,647	Plates - Iron and Steel (3/16 in. and thicker).. Tons	12,490	2,186,941
Paper - Scutan		*	Plates - Steel (3/16 in. or thicker)	2,575	455,636
Paper Cartridge		*	Platinum Gauze		*
Paper Fabric		*	Platinum Rhodium Gauze . Troy oz.		*
Paperboards		*	Plexiglass		*
Paper-coupler and Tubes.. Lbs.		*	Plugs - Vent		*
Paper and Paper Products		*	Plumbago and Graphite .. Lbs.	21,980	4,133
Paraffin and Other Wax .. Lbs.	421,161	46,605	Plywood	1,972	449,987
Paraformaldehyde		*	Potash - Caustic	68,481	7,773
Parts - Car and Locomotive		*	Potatoes	178,102	5,444
Peanut Butter	4,815	1,400	Poultry (killed)		*
Peanuts - Green		*	Powder - Chocolate		30,568
Peanuts - Roasted	128,719	22,351	Powder - Milk	1,216,020	243,203
Pectin	2,964	4,703	Pozzolith		*
Permalite		*	Propane		*
Peroxide - Butyl		*	Pulp - Beet	57	3,255
Peroxide - Lauryol		*	Pumice		*
Petroleum Creosote Mixtures		*	Pyrites		*
Petroleum Pentachloro-phenol Mixtures		*			
Phenol		*			

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

QUANTITY		VALUE	QUANTITY		VALUE
		\$			\$
Rags, including Cotton and Flax Waste and Sweepings	Tons	69,949	Rye	Tons	*
Rainey Nickel - (activated)	Tons	*	Rye, For Breakfast Foods	Lbs.	*
Rainey Catalyst, Nickel - (unactivated)	Tons	*	Saddle Trees	No.	*
Registers	No.	*	Saddles, Leather	No.	*
Rennet		32,426	Salt	Lbs.	8,328,938 158,226
Resin	Tons	6,257	Salt, Rock	Lbs.	*
Resin, Lauxite	Cwt.	*	Salt Cake	Lbs.	*
Resins, Synthetic, Acrylic Type	Sheets	*	Salts, Potassium	Lbs.	5,100 1,817
Resins, Synthetic, Alkyd Types - (polyesters)	Lbs.	*	Salts, Water-soluble	Lbs.	*
Resins, Synthetic, Phenolic Type, Liquid or Powder	Lbs.	*	Salts, Other (Burton, etc.)	Lbs.	74,244 9,420
Resins, Synthetic, Polyethylene Types ...		*	Sand, Foundry	Tons	3,126 39,367
Resins, Synthetic, Styrne Types (polystrene)	Lbs.	*	Sand, Silica	Tons	41,201 467,667
Resins, Synthetic, Urea Type		*	Sand and Gravel	Cu.yds.	854,974 2,162,904
Resins, Synthetic, Vinyl Type (vinyl acetate)	Lbs.	*	Sawdust		3,875
Resins, Synthetic, Vinyl Type (vue flex)	Sheets	*	Saws and Knives		*
Retarder	Tons	*	Screenings	Tons	4,571 91,321
Rice, Including Rice Flakes and Rice Grits	Lbs.	2,288,845 162,673	Screens		*
Rice & Rice Meal	Bus.	*	Sediments (defoamer)	Lbs.	*
Rivets		23,347	Seeds (clover, sun- flower, etc)	Tons	168 9,593
Rods, Welding		72,224	Selenium Metal and Salts	Lbs.	*
Rods and Bars, Brass and Bronze	Lbs.	*	Separators - Battery (plastic and rubber)		*
Roofing		*	Separators - Battery (revere)		*
Roots and Herbs	Lbs.	*	Shale		*
Rums, Imported	Pf.gals.	*	Shale, Expanded	Cu.yds.	*
			Shapes - Stainless Steel		*
			Shavings, Planer	Cu.yds.	*
			Sheathings, Untreated ...	Tons	367 31,590
			Sheets, Stainless Steel Alloy	Lbs.	102,300 93,740
			Sheets, Galvanized, (thinner than 3/16 in.)	Tons	9,488 2,079,947

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

QUANTITY			VALUE	QUANTITY			VALUE
			\$				\$
Sheets, Steel (thinner than 3/16 in.)	Tons	6,844	1,227,350	Springs			*
Sheets, Tinplate (thinner than 3/16 in.)	Tons	11,234	2,028,070	Sprouts, Malt	Tons	614	22,065
Shells, Oyster and Clam	Tons		*	Stabilizers			90,037
Shortening	Lbs.	1,681,064	385,730	Stakes, Car (iron and steel)			*
Shortening, Butter, Lard, etc.	Lbs.		*	Starch	Lbs.	618,056	62,072
Shortening - For Prepared Mixes	Lbs.		*	Starch, Pregelatinized ..	Lbs.		*
Shorts	Tons		*	Starch and Flour, Potato	Lbs.	10,125	1,610
Skins (deer, mule, goat, deer, etc.)	Sq.ft.		*	Steel, including Bars, Plates, Structural Shapes			*
Skins, Sheep (wool on)	No.		*	Steel			*
Slag, Arsenical	Lbs.		*	Steel, Stainless			*
Slag - For Mineral Wool	Tons		*	Steel, Cold Rolled.....	Tons		*
Slats			*	Steel, Core	Tons		*
Slats, Aluminum	M.lin.ft.		*	Steel, Reinforcing	Tons	2,532	723,106
Slats, Steel	M.lin.ft.		*	Steel, Tool	Lbs.		*
Soap, Resin	Lbs.		*	Steel, Tool (billets, bars and rods)	Lbs.	2,450	1,660
Soda, Benzoate of	Lbs.		*	Stilbestrol	Tons		*
Soda, Silicate of	Lbs.		*	Stone, Crushed	Tons	35,499	29,055
Sodium Bicarbonate	Lbs.	181,990	24,233	Stone, Rough (granite, marble, etc.)			*
Sodium Carbonate (soda ash)	Lbs.	24,841,774	834,676	Straw			*
Sodium Chlorate	Lbs.		*	Strips, Iron and Steel	Tons	515	100,139
Sodium Citrate	Lbs.		*	Strips, Iron and Steel (less than 14 in. wide)	Tons	956	157,770
Sodium Hydroxide			637,141	Structural Shapes (channels, etc.)	Tons	15,086	2,397,174
Sodium Nitrate	Lbs.		*	Structural Shapes, Un- fabricated (channels, angles, etc.)	Tons	11,452	1,554,784
Sodium Silicate	Lbs.		*	Sugar	Lbs.	18,689,503	1,778,083
Solder and Babbitt Metal	Lbs.	14,510	6,537	Sugar, Corn and Cerelese	Lbs.	6,750	1,240
Soybean Flakes	Lbs.		*	Sugar, Maple	Lbs.		*
Spice Materials (seed, bark etc.) - for grinding, mixing, etc.	Lbs.		*	Sugar Beets	Tons		*
Spices, All Kinds	Lbs.	48,010	15,856	Sugar Cane Pith	Lbs.		*

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

	QUANTITY	VALUE		QUANTITY	VALUE
		\$			\$
Sulphite, Paper Grades (unbleached) Tons		*	Valves, Regulating No.		*
Sulphur Tons	5,661	151,648	Valves and Controls ...		*
Syenite, Nepheline Tons		*	Vegetables, Dry (beans) Lbs.		*
Syrups Gals.		215,103	Vegetables, Fresh Lbs.	37,030,156	756,192
Syrup, Chocolate Lbs.	442,927	114,072	Veneer		36,343
Syrups, Corn Lbs.	12,048	2,109	Vinegar Gals.		*
Syrups, Malt and Malt Extracts Lbs.	75,979	12,246	Visco Imp.gals.		*
Syrups, Fruit Juices, Concentrates, Ex- tracts, etc. Gals.		*	Vitamilk Tons		*
Talc Tons	1,028	35,313	Vitamins and Vitamin Compounds Lbs.		265,922
Tallow, Grease & Other Soap Stock Lbs.		*	Wash Oil Gals.		*
Tank Heads, Steel		*	Water Treating Chem- icals Lbs.		*
Tankage, Feeding Tons	5,033	404,963	Wax - Paraffin		*
Tanks, Steel No.		*	Wax - Paraffin (yellow crude scale) Lbs.		*
Tape, Cambric Rolls		*	Weatherstrip		*
Tape, Gummed Kraft ... Rolls		*	Welding Supplies		*
Tapes and Cords		*	Wheat - For Breakfast Foods Lbs.		*
Tegraethyl Fluid C.C.	912,391,774	1,491,386	Wheat - Used For Feeds Tons	15,001	690,903
Thread		3,439	Wheat - Used For Flour Bus.	13,536,008	21,673,583
Ticking (mattress and pillow)		512,810	Wheat, Rye and Flax - Used For Breakfast Foods Bus.		*
Tin - Pig, Primary or Virgin Lbs.	49,233	52,344	Wheat Germ Tons	422	26,282
Tires and Tubes		*	Wheels - For Railway and Rolling Stock Equipment No.		*
Tomato Pulp, Paste and Puree Lbs.		*	Wheels and Tires		*
Tripe, Meat Tons		*	Whiskies, Imported Pf.gals.		*
Tubes, Boiler Tons		*	Windows		*
Tubing, Stainless Steel Lbs.		*	Wire Tons	431	80,152
Twine Lbs.		*	Wire, Aluminum Screen..		*
Twine, Sewing Lbs.		*	Wire, Copper		*
Twine and Thread		*	Wire, Enamelled Lbs.		*
Urea Tons	206	25,019	Wire, Welding Tons		*

MATERIALS AND SUPPLIES USED BY ALBERTA MANUFACTURING FIRMS 1956

QUANTITY		VALUE	QUANTITY		VALUE
		\$			\$
Wires, Cylinder.....	Sq.ft.	*	Wood Pulp	Lbs.	*
Wire, Baling		*	Wood, Untreated	Cu.ft.	*
Wire, Copper (bare)...	Lbs.	*	Wool (coarser than 56's)..	Lbs.	*
Wire, Insulating		*	Wool, Imported, 56's ...	Lbs.	*
Wire, Post-tensioning...		*	Wreaths, Decorative & Memorial		*
Wire, Stitching	Lbs.	57,495	13,872	Yarn, All Types	53,879
Wire and Springs		208,199	Yeast, Ordinary	Lbs.	1,245,826
Wood - Used For Pulping	Cords	*	Yeast Foods & Other Bread Improvers	Lbs.	418,541
Wood, Defibrated and Exploded		*	Zinc	Lbs.	*



ALBERTA GOVERNMENT PHOTOGRAPH

A stockpile of sulphur produced at Jumping Pound.



COURTESY OF ALBERTA PHOENIX TUBE AND PIPE LTD.

Tube and pipe for western Canada markets are products of this Edmonton plant.



COURTESY OF CANADIAN PACIFIC RAILWAY

Alberta's scenic Rockies are the tourist's paradise.

TABLE 19. PRODUCTS MANUFACTURED
IN ALBERTA
1956

The following list has been compiled to show, wherever possible, the dollar volume of products manufactured. The Statistics Act precludes the publication of figures, either quantity or value, if the specific product is manufactured by less than three firms. An asterisk in the value column indicates items affected by this regulation. Quantities and valuations shown are minimum, since not all firms report in detail.

QUANTITY		VALUE	QUANTITY		VALUE
		\$			\$
Acetate Filament	Lbs.	*	Ammonium Nitrate.....	Tons	*
Acetate Filament, untwisted.....	Lbs.	*	Ammonium Phosphate (11-48-0).....	Tons	*
Acetate Pentasol		*	Ammonium Phosphate (16-20-0)	Tons	*
Acetate Sheets		*	Ammonium Sulphate.....	Tons	*
Acetate Staple Baled Fibre	Lbs.	*	Angledozer, Hydraulic, for Crawler Tractor	No.	*
Acetates	Lbs.	*	Animal Fats (greases).....	Lbs.	*
Acetic Anhydride	Lbs.	*	Animal Fats, Neatsfoot Oil		8,405
Acetone.....	Lbs.	*	Animal Fats, Edible Tallow	Lbs.	7,229,975 662,307
Acetylene (in cylinders or for delivery by pipe line).....	Cu.ft.	14,572,942 599,820	Animal Fats, Inedible Tallow	Lbs.	11,725,378 659,026
Acid, Acetic, Glacial, 99 1/2%	Lbs.	*	Anti-freeze	Imp.gals.	*
Acid, Hydrochloric, (Muriatic), 100%.....	Lbs.	*	Aprons	Doz.	2,319 33,062
Acid, Nitric (inter plant shipped 42% BE)....	Lbs.	*	Argon		*
Acid, Sulphuric, all grades, including oleum (as 100%)	Lbs.	*	Art Work		*
Acrylic (for oil companys instruments)		*	Asphalt	Imp.gals.	46,648,692 5,201,626
Advertising, Printed, produced from type, plates, stencils, etc.		521,017	Asphalt and Tar, saturated rag and asbestos felts, not coated	Tons	4,237 444,844
Advertising Displays		11,837	Assemblies, Rocher, for bridges		*
Aggregate, Light Weight..	Cu.yds.	*	Augers	No.	*
Aircraft Dials Screened...		*	Awnings, All Kinds		121,484
Alcohol, Rubbing	Gals.	*	Babbitt.....	Lbs.	*
Ammonia, Anhydrous	Tons	*	Badges, Laminated Lapel (plastic)		*
Ammonia, Aqua		*	Bags, Cotton or Jute		1,966,975

		QUANTITY	VALUE		QUANTITY	VALUE
			\$			\$
Bags, Plastic			*	Bentonite - for lining		
Bags, Sleeping.....	No.	6,712	156,266	lumber mill pond to		
Bakery Products, other				stop leaks	Tons	*
than bread, buns, etc...			1,803,637	Beverages - carbonated,		
Barges, Ships	Tons		*	(soft drinks).....	Gals.	5,643,093
Bars, for concrete						5,412,602
reinforcing	Tons		*	Binders - loose-leaf		12,969
Bars, Grate	Lbs.	59,100	8,605	Bins - and - Hoppers	No.	6
Bars, Merchant	Tons		*			46,917
Bases, Pump			*	Biscuits, Plain and		
Baskets - and - Crates,			*	Fancy	Lbs.	7,695,180
fruit and vegetable			*			2,525,613
Bathrobes, Kimonas,				Biscuits, Soda	Lbs.	*
Housecoats,				Bits, Drill		*
Duster Coats,			*	Blades, Grader.....		*
(cotton)	Doz.		*	Blankets - Household,		
Batteries - parts and			*	all wool	Pr.	*
supplies for			*	Blankets - Household,		*
Batteries, Storage				nylon mix	Pr.	*
(automotive type).....	No.	235,931	2,463,957	Blinds, Venetian		*
Batts - and - Rolls,				Blocks, Chimney	No.	256,118
glass fibre	Lbs.		*			176,368
Beams	No.		*	Blocks, Concrete		926,209
Beans -(baked, canned)..			322,531	Blocks - (haydite, slag,		
Beans - green or wax,			418,084	etc.)	No.	4,650,964
(canned)			*			1,195,718
Beans - lima, (canned)...	Lbs.		*	Blocks, Sidewalk		*
Bearings - and - Fittings,			*	Blouses (cotton, nylon) ..	Doz.	*
for railways.....	Lbs.		*	Blowers	No.	115
Beds, Metal			*			4,615
Bedspreads			*	Boats		*
Beer, Ale, Stout,				Bodies - and - Cabs	No.	609
Porter, etc.						495,887
(small bottles).....	Gals.	7,351,193	13,654,996	Body Belts (all kinds)....	No.	6,162
Beer, Ale, Stout,						6,616
Porter, etc.				Boiler Chemicals - for		
(draught and bulk)	Gals.	7,252,587	8,412,836	industrial use		*
Beet Pulp - wet	Tons		*			*
Beets -(canned).....	Lbs.	181,605	54,155	Boiler Chemicals - for		*
Bentonite.....	Tons		*	use by railroads		*
Bentonite Clay - raw....	Tons		*	Boilers, Power	No.	*
Bentonite Dusting						
Agents	Tons		*	Boilers, Steam Heating		
				(steel)	No.	*
				Boleros, Ladies, fur	No.	*
				Bolts, Nuts, Rivets.....		35,373
				Books - ledger and		
				account, etc.		88,583
				Books - printed and		
				bound		189,370
				Bottles - glass		*

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

QUANTITY			QUANTITY		
		VALUE			VALUE
		\$			\$
Boxboard (liner for gypsum or plaster board).....	Tons	*	Cabinets, Counters and Showcases		*
Box Shooks	M.ft.b.m.	*	Cabinets, Kitchen units ..		11,785
Boxes, Paper	M.sq.ft.	4,979,995	Cabinets, Phonograph, Radio & Television		*
Boxes - gas curb, cast iron	No.	*	Cables, Battery & Straps, ground		*
Boxes - outlet & switch, including covers.....		4,718	Cages and Skips, mine....		*
Boxes, Post Office.....	No.	*	Canvases, Swather	No.	*
Boxes, Wooden		922,715	Capes, Ladies', fur		*
Boxes and Cases, for jewellery (plastic).....		*	Capes, Nurses	Doz.	11 2,640
Boxes, Burial - wooden outer and parts		*	Caps, Cooks & Butchers... Doz.		*
Brake Fluid		25,736	Caps, ridge	Bdles.	*
Bran	Tons	45,404 1,719,602	Carbon Dioxide, in cylinders	Lbs.	*
Bread	Lbs.	80,374,135 9,270,021	Carbon Dioxide, solid (Dry Ice)	Lbs.	*
Brick, Concrete.....	M.	1,918 57,064	Cards, Greeting, etc. ...		90,103
Brick, Dry Press - face ...		766,411	Cards, Tabulating and Time-clock		4,255
Brick, Soft mud process, common	No.	*	Carrots, Canned.....	Lbs.	160,449 35,063
Brick, Soft mud process, face	No.	*	Carrots & Peas combined, Canned	Lbs.	116,672 84,937
Brick, Stiff mud process, (face) and (common)		*	Cars, Mine	No.	*
Bridles, Riding - leather..	No.	*	Casings, Sausage	Lbs.	1,059,520 576,152
Building Insulation, (bulk or loose wool).....	Cu.ft.	*	Caskets and Coffins, completely assembled (wooden, cloth covered)..	No.	*
Buildings, Pre-fabricated.		154,146	Castings - Aluminum	Lbs.	102,964 81,576
Bunks, Metal	No.	*	Castings - brass, bronze ..	Lbs.	95,647 89,019
Burlap		*	Castings, grey iron		155,714
Burners, Gas		113,304	Castings, Steel		*
Butane	Imp.gals.	15,148,756 641,436	Castings - die (zinc)	Lbs.	*
Butane & Butylene	Imp.gals.	*	Catalogues		163,819
Butter, Creamery	Lbs.	31,319,516 18,653,147	Catch Basins	No.	1,028 37,009
Butter, Whey	Lbs.	*	Cement	Bbbs.	*
Butyl Acetate	Lbs.	*	Cheese, Cheddar	Lbs.	1,856,178 666,787
Cabinet Work, (office, store, church, technical)		438,148	Cheese, Cottage - creamed	Lbs.	1,462,916 346,394
			Cheese, Process	Lbs.	*

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

	QUANTITY	VALUE \$		QUANTITY	VALUE \$
Chlorine, Liquid	Lbs.	*	Cranes	No.	*
Cleaner, Hand	Lbs.	*	Cranes, electric over- head travelling	No.	*
Coal Spray	Imp.gals.	*	Crests & Pennants, felt ...		*
Coatings, foundation, roof	Gals.	*	Cultivators, field	No.	*
Coats, Buffalo	No.	*	Cup Novelties	Doz.	*
Coats, Ladies' Fur	No.	*	Curbing, well (steel).....		*
Coats, short, including windbreakers, leather, etc.	Doz.	1,301 243,287	Cutters, Feed (hand and power)	No.	*
Cobalt, metallic	Lbs.	*	Decals, plastic		*
Coffee, roasted	Lbs.	*	Decks, pulp	No.	*
Collars, Drill		*	Desks - Office (wooden)		*
Columns -and- Beams, for buildings		313,201	Desks - Pupils' school, (wooden)		*
Comforters (cotton, down, wool & other)		*	Desks and Chairs, tublar (steel).....	No.	*
Compressed Air	Cu.ft.	198,385 5,340	Detergents, dish washing..	Lbs.	*
Concentrates (calf, dairy and cattle, swine and poultry, other)	Tons	27,996 2,626,090	Diggers, Post hole	No.	*
Concrete, ready-mixed...	Cu.yds.	641,069 7,066,549	Disinfectants		*
Condensate	Gals.	*	Ditchers, irrigation	No.	*
Containers (round fibre or paperboard).....	No.	*	Doors, Garage		*
Conveyors		75,403	Doors (slab and flush type)		99,894
Cookers, feed	No.	*	Doors (solid and clad, aluminum)		*
Corn - cream, whole grain, etc. (canned)		1,086,261	Doors (solid and clad, steel)		41,219
Corn-on-the-cob, (canned)	Lbs.	3,000 17,531	Doors and Windows		*
Cots & Couches, metal ...	No.	*	Doughnuts		450,081
Couches, Studio.....		408,589	Dozers, overhead		*
Counterweights.....	Tons	*	Drainage equipment, (aluminum)		*
Couplers, fast.....		*	Drainage equipment, (steel)		100,936
Coverings - ceiling and interior wall (steel).....		*	Draperies		174,086
Covers - boat	No.	637 13,594	Dresses (inc. jumpers) cotton, nylon, rayon and rayon mixtures		*
Covers - slip		10,769	Dresses, House (cotton, nylon)		*
Covers - suitcase	No.	*			

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

QUANTITY	VALUE		QUANTITY	VALUE
	\$			\$
Drills, Grain (press) No.	*	Fish..... Tons	*	
Eavestroughing (for houses) No.	*	Flanges	*	
Eggs - dried & powdered, including sugared Lbs.	*	Flavouring extracts, essences, etc. Gals.	*	
Egg substitute Lbs.	*	Floodlights	*	
Emblems, badges and medals	*	Flour (rye)..... Tons	*	
Embroidery Lettering	*	Flour (wheat) Cwt.	5,963,124	25,263,147
Engraving	*	Flour preparations, (for sausage fillings, meat loaves, etc.)..... Tons	119	25,776
Envelopes, (printed or not)	698,002	Fluorescent Lighting fixtures (commercial).....		*
Equipment - food pro- cessing	*	Foods, Breakfast (prepared) Lbs.		*
Equipment, Irrigation.....	*	Foods, Breakfast (unprepared) Tons		*
Equipment, Kitchen (for cafeterias, restaurants, etc.).....	*	Foods, Dog and Cat		1,027,350
Equipment, (truck mounted)	*	Forced Air Units, (complete - including ducts, etc.) No.		*
Excelsior Tons	*	Forgings (flat or open die).....		*
Fabrics, Knitted..... Lbs.	*	Formaldehyde Lbs.		*
Fabrics, Woven Apparel (all wool) Lbs.	*	Forms (commercial, legal and other)		1,582,478
Feed Controls - drilling... No.	*	Frames, Door (pressed steel)		*
Feed Stocks - alkylate ... Imp.gals.	*	Frames, Furniture.....		*
Feed Stocks - cracked.... Imp.gals.	*	Frames, Window and Door		*
Feed Stocks - petro- chemical Imp.gals.	*	Frames and Covers, (manhole)..... No.		*
Feeds, Animal Tons	598,147	French Fries (ready to cook) Lbs.		*
Feeds, Calf..... Tons	1,133	Fruits, Frozen..... Lbs.		*
Feeds (chopped, ground or crushed grain)..... Tons	17,385	Fuel, Aviation Turbine Imp.gals.	16,112,369	2,202,018
Feeds, Dairy and Cattle	691,232	Fuel, Diesel..... Imp.gals.	133,584,312	15,785,547
Feeds, Poultry..... Tons	33,680	Fuel, Tractor..... Imp.gals.	7,753,169	822,619
Feeds, Swine Tons	4,437	Furnaces, Warm Air - (gravity or forced air circulation for coal or wood burning) No.		
Felt Products.....	*			
Fencing, Snow	*			
Fertilizers, complete..... Lbs.	612,448			
	25,257			

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

	QUANTITY	VALUE \$		QUANTITY	VALUE \$
Furnaces, Warm Air - (gravity or forced air circulation designed exclusively for gas burning) No.	3,433	820,025	Gasoline, Natural Gals.	12,563,082	1,085,201
Furnaces, Warm Air - (gravity or forced air circulation designed for oil burning) No.		*	Gates, Irrigation		*
Furniture, Bedroom - (not upholstered)		9,932	Gears (cut tooth and cast tooth)		*
Furniture, Breakfast- table		12,500	Gelatin Dough Lbs.		*
Furniture, Kitchen		*	Gins Pf.gals.		*
Furniture, Living-room - (upholstered)		1,543,157	Gloves, Mittens & Gauntlets - (men's lined) Doz.		*
Furniture, Living-room - (not upholstered)		*	Gloves, Mittens & Gauntlets Doz.		*
Furniture, Office - Wooden (other than desks)		12,978	Glycols - Anti- Freeze Grade Lbs.		*
Furniture, (other than living-room and studio couches)		*	Glycols - Dipropylene... Lbs.		*
Furniture, School, Office, Hospitals -		391,228	Glycols - Propylene Lbs.		*
Furniture & Fixtures - (wooden store)		425,601	Gopher Poison Tons		*
Furs (raw)		*	Gowns, Overalls (for operating rooms)		*
Games		*	Grains (dried for sale) ... Tons		*
Garments, Hospital, Institutional Doz.		*	Grains (sold wet) Tons	12,772	29,523
Gas (dry) M.C.F.		*	Grains, Distillers' Tons		*
Gas (railway illuminating)		*	Grains, Whole Tons		*
Gas Residue M.C.F.	21,414,595	2,057,068	Grating		*
Gas, Natural M.C.F.	4,446,957	1,182,785	Greases		*
Gases, Liquified Petroleum (propane, butane, etc. mixed) Imp.gals.		*	Gypsum Lath M.sq.ft.		*
Gas Processing Equipment		*	Gypsum Tile Sq.ft.		*
Gasoline, Absorption (natural)		*	Hair and Bristles (cattle, hog & horse)....		29,716
Gasoline, Aviation Imp.gals.		*	Halters No.	2,220	5,306
Gasoline, Motor Imp.gals.	373,543,889	62,337,436	Hammermills No.		*
			Hardware, Pole Line		*
			Harness, Dog		*
			Harness (horse & parts)...		8,784
			Harrows, Spring Tooth... No.		*
			Hats, Men's (fur and wool felt)		*
			Heaters (for engine blocks)	No.	*

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

	QUANTITY	VALUE \$		QUANTITY	VALUE \$
Heaters, Domestic Water Tank (gas) No.	2,452	39,090	Joints, Universal No.		*
Heaters, Tank (cast iron, wood or oil)		*	Joists, Steel (for buildings)		*
Heaters, Unit (all types)		261,247	Land Levellers, Irrigation No.		*
Hides, Cattle No.	320,057	2,008,282	Lard Lbs.	22,656,752	3,159,145
Hides, Horse No.		*	Laths (wooden) Ft.b.m.		*
Hoists No.		*	Lead (reclaimed from scrap) Lbs.		*
Hoists, Hydraulic Truck No.		*	Lead (pure) Lbs.		*
Hoists and Bodies, Truck		*	Leather, Upper - (cattle hides) Sq.ft.		*
Hose, Hydraulic..... Ft.		*	Leather, Upper - (sheep & lamb skins - wool off) Sq.ft.		*
Hullers, Oat No.		*	Legs (for box springs)		*
Hydrants No.	1,399	279,341	Letterheads (engraved) & Cards (business)		20,032
Ice Tons		*	Letters (circular)		39,352
Ice Cream Gals.	2,779,878	4,687,395	Lifters, Beet (toppers and harvesters) No.		*
Ice Cream Mix Gals.	385,828	671,433	Lighting Equipment (oil- field electrical)		*
Incubators & Poultry- men's Supplies		*	Lime, Hydrated Tons		*
Ingots, Steel - (electric) Tons		*	Lime, Quick Tons	36,956	551,710
Instruments, Seismic No.		*	Liners for bags, paper No.		*
Iron and Steel - Miscellaneous (stairs & handrails, etc.)		*	Linings, Flue Ft.		*
Iso Butanol Lbs.		*	Linseed Oil Cake Tons		*
Iso Butanol -(CCS-203 blend) Lbs.		*	Liqueurs, Cordials, Cocktails, etc. Pf.gals.		*
Iso Butanol - (hi assay) ... Lbs.		*	Lithography, Photo - (including camera & plate making)		*
Jackets, Ladies' Fur No.		*	Loaders, Bale		*
Jackets, Leather Doz.		*	Loaders & Elevators, Grain No.		*
Jackets, Men's and Boys' No.		*	Luggage, Hand No.		*
Jams Lbs.		*	Luggers, Tunnel No.		*
Javelle Water.....		*	Lumber, Planed M.ft.b.m.	83,896	5,758,724
Jeans - and - Slacks, Women's and Misses Doz.		*	Macaroni, Spaghetti, Vermicelli, Noodles, etc.		*
Jewellery		*			

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

QUANTITY		VALUE	QUANTITY		VALUE
		\$			\$
Machinery, Farm (and repairs).....	*		Meats, Cold	Lbs.	1,607,411 691,597
Machinery, Grain Elevator	*		Meats, Cured and Smoked (including sliced)	Lbs.	28,583,704 14,152,365
Machinery, Hoisting, (Monorail Systems).....	*		Meats Sold Fresh and Fresh Frozen (beef, veal, pork, mutton and lamb)	Lbs.	285,565,550 84,773,620
Machinery, Mining and Metallurgical (& parts)...	39,598		Medicines, Veterinary....		*
Machinery, Transmission (parts for).....	*		Members, Bridge, Concrete		*
Machinery (and parts) Sawmill, etc.	794,625		Menus		24,104
Machine-sets - Numbering	*		Metal Stampings	No.	*
Malt (made from barley)..... Bus.	*		Metals, Secondary.....	Lbs.	*
Malt, Caramel	Lbs.	*	Methanol.....	Lbs.	*
Malt Sprouts or Coomings..... Bus.	*		Methyl Amyl Acetate	Lbs.	*
Maps and Charts (not including blue prints and photostats)	37,897		Methyl Ethyl Ketone (crude).....	Lbs.	*
Margarine	Lbs.	*	Methyl Isobutyl Carbinol	Lbs.	*
Markers, Bronze	*		Methyl Isobutyl Ketone	Lbs.	*
Marmalades	Lbs.	*	Milk, Evaporated	Lbs.	*
Mats, Plastic	*		Milk, (partly skim) Evaporated	Lbs.	*
Mats, Rubber Door.....	*		Mills, Fanning and Cleaning Grain	No.	*
Matting and Casting	*		Mince Meat	Lbs.	283,362 57,189
Mattresses, Athletic	No.	*	Mineral Wool (building insulation)	Sq.ft.	14,873,822 626,743
Mattresses (spring filled, cotton, felt and other)....	*		Mixes, Cake, Prepared	Tons	464 348,987
Meal, Blood	Tons	*	Mixes, Pancake, Prepared	Lbs.	*
Meal, Legume and Grass (dehydrated)	Tons	2,524 180,477	Mixtures, Mineral	Tons	1,474 135,145
Meal, Legume and Grass (sun-dried)	Tons	*	Molasses (from beet)	Tons	*
Meal, Meat	Tons	*	Monuments, All Kinds ...		306,363
Meal, Rye	Tons	*	Moulding		*
Meal Scrap	Lbs.	*	Moulding for Picture & Mirror Frames		*
Meat, Horse	Tons	*	Moulding and Trim, (metal)		*
Meats, Canned (beef, veal, pork, mutton, lamb, etc.).....	Lbs.	52,611,937 19,328,956	Moulds, Ingot	Tons	*

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

QUANTITY			QUANTITY		
VALUE			VALUE		
\$			\$		
Naphtha Specialties..... Imp.gals.	1,348,733	272,428	Ornaments, Glass, (ashtrays, dishes, vases, etc.)		*
N-Butanol	Lbs.	*	Overalls	Doz.	*
Nectars & Cordials	Lbs.	*	Overalls, Leather	Doz.	*
Newspapers, Daily		11,434,503	Oxygen - Gas	Cu.ft.	58,565,725
Newspapers, Weekly		721,427			768,129
Nickel, Metallic	Lbs.	*	Packers, Land		*
Nickel Cobalt, Mixed Metallic	Lbs.	*	Paint and Paint Products		*
Nightgowns (cotton and flannelette)	Doz.	*	Pallets	No.	*
Nightshirts, Hospital- patients	Doz.	*	Panels, Wall		*
Nitrate, Guanidine	Lbs.	*	Pants, Men's & Boys' Work (wool and wool mixtures, cotton)	Doz.	29,280
Nitro-compounds - Dynamites	Lbs.	*			1,472,378
Nitrogen	Cu.ft.	1,332,604	Pants & Slacks, Men's & Boys' (wool, rayon, wool and rayon mix- tures, also cotton)	No.	21,873
Nitrous Oxide	Lbs.	*			234,088
Novelties (printed by any process)		6,474	Pants, Uniform, Separate	Doz.	*
Novelties, Stick	Doz.	*	Paper, Safety, for Cheques (not printed)		14,705
N-Propanol	Lbs.	*	Paper, Waste	Tons	1,792
Nuts (walnuts, almonds, etc.) Salted, Roasted, etc.	Lbs.	*			61,838
Offal	Tons	*	Paper Board (corru- gating board)	Tons	*
Oil, Absorber	Imp.gals.	*	Paper Board (liners)	Tons	*
Oil, Fuel	Imp.gals.	*	Paper and Wrappers (corrugated, single face, in rolls or sheets)	M.sq.ft.	*
Oil, Heavy Fuel (no's 4, 5 and 6)	Imp.gals.	158,811,046	Papers, Building (not coated or impregnated) ...	Tons	*
		8,970,816	Parts, Boiler (including drums, water-walls, repairs, etc.)		*
Oil, Kerosene & Stove (no. 1 fuel oil)	Imp.gals.	15,231,254	Parts, Furnace		*
		2,065,971	Parts (for) Mining Machinery		*
Oil, Light Fuel (no's 2 and 3)	Imp.gals.	51,386,169	Parts, Stoker		*
		6,530,877	Parts, Stove		*
Oil, Linseed, Processed (boiled)	Gals.	*	Patterns & Models		*
Oil, Linseed, Processed (special)	Gals.	*	Peanuts, Salted, Roasted, etc.	Lbs.	*
Oil, Linseed, (raw or crude)	Gals.	*	Peas, (canned)		1,164,904
Oil and Grease, Lubri- cating	Imp.gals.	*			

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

	QUANTITY	VALUE \$		QUANTITY	VALUE \$
Peas, Bulk, Sacks, (frozen) .....Lbs.		*	Pipe Fittings (steel)(inc. flanges and flanged fittings)		*
Pennants (paper) cards, posters and signs		*	Pipe Fittings (cast iron)(inc. flanges and flanged, except those used for water mains) Tons	454	20,455
Pentaerythritol .....Lbs.		*	Pipe Fittings (steel) (buttwelding fittings).....		*
Petroleum Coke .....Tons	70,875	381,198	Pipewrap, Glass Fibre.... Sqs.		*
Photo-engraving		126,288	Planers, Lumber..... No.		*
Photography, Commercial..		*	Plasters, Hardwall Tons		*
Photography, Portrait		*	Plasters, Other Gypsum .. Tons		*
Pickles .....Lbs.		*	Plastic (cut to assorted shapes and forms for Neon Co's)		*
Pies, Cakes, Cookies, Pastries, etc.		1,496,866	Plastic, Sheet.....		*
Pies, Meat		17,608	Plate, Steel (cut, punched, shaped or otherwise fabrica- ted for assembly job)		1,652,000
Pillows & Cushions (feather, other cushions, spring and other)		*	Plate Work, Steel, (miscellaneous)..... Tons		*
Pipe, Butyrate		*	Platemaking, Offset.....		*
Pipe, Culvert - (concrete) .....Tons	28,999	753,879	Plates, Plastic		*
Pipe, Culvert - (metal) .....Tons	10,005	3,310,649	Plates, Rubber		*
Pipe, Polythene Plastic Water		*	Plywood M.sq.ft.		*
Pipe, Riveted and Welded Steel .....Tons		*	Poles, Piling, Posts, etc. (treated)		*
Pipe, Sewer		1,771,216	Polyethylene..... Lbs.		*
Pipe, Steel, Riveted and Welded, (other than stainless steel)		67,085	Polyethylene Film		*
Pipe, Underground		*	Popcorn (including pop- corn confectionery) Lbs.		*
Pipe and Fittings		*	Porcelains, Electrical		*
Pipe and Fittings, Cast Iron Water .....Tons	1,097	285,135	Postcards		16,530
Pipe and Fittings, Cast Iron Soil .....Tons		*	Posts, Clothes Line, (steel) No.		*
Pipe and Tubing (steel) Buttweld .....Tons		*	Potato Chips Lbs.	33,801	21,409
Pipe and Tubing (steel) Electricweld		*	Pots, Flower		*
Pipe and Tubing (steel) (other than buttweld, seamless & electricweld)...		*	Pottery - from Domestic Clays (stoneware, crocks, insulators)		*
Pipe and Tubing (steel) Seamless		*	Pottery (from imported clays).....		*

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

	QUANTITY	VALUE \$		QUANTITY	VALUE \$
Pottery, Tableware, (from domestic clays).....		*	Rigs, Oil Well Drilling, (parts and supplies)		*
Poultry (sold fresh and fresh frozen)..... Lbs.	4,916,253	2,149,384	Rolls and Buns		522,514
Poultry (chicken, turkey, etc.)(canned)..... Lbs.		*	Roof Coatings (liquid) Gals.		*
Powder, Buttermilk	421,572	44,399	Roof Decking		*
Powder, Skim Milk	990,837	146,499	Roofing (built up)		*
Power Take Offs, Truck ... No.		*	Roofing, (glassfibre base)		Sq. *
Power Units (over 6 H.P.)		*	Roofing (mineral sur- faced rag and asbestos felt roll)	86,934	Sq. 292,722
Printed Goods and Stationery (miscellan- eous)		29,243	Roofing (smooth sur- faced rag and asbestos roll)	137,849	Sq. 373,830
Printing of Periodicals (paper supplied by publishers).....		*	Roofing and Water- proofing Materials		*
Programs, Printed		51,129	Roters, Rod (for rotating sucker rod strings)		*
Propane	29,411,215	1,148,030	Rugs, Auto		No. *
Propylene Oxide		*	Rums		Pf.gals. *
Pulleys, Steel		*	Saddle Parts		7,398
Pumper, Hydraulic		*	Saddle Pockets and Money Bags		Pr. *
Pumpkin and Squash (canned)		74,761	Saddles	697	No. 40,882
Pumps, Hydraulic		*	Salt		Tons *
Pumps, Other Power Pumps and Parts		*	Salts, Copper		Lbs. *
Pyjamas (cotton and flannelette)		*	Salts, Meat Curing, and Compounds		Lbs. *
Racks, Bicycle		*	Sash, Doors and Other Mill-work		4,003,085
Rafters, Laminated, Roof Trusses and Beams		699,493	Sauerkraut (canned)		*
Railings, Ornamental		116,731	Sawdust		3,909
Rails, Hand		*	Scrapers, Paraffin		*
Registers and Grills (for hot air heating systems)		*	Screenings	10,790	Tons 101,315
Relishes		*	Scrubbing Compound		*
Resin, Polyester		*	Shafts (rotary, jack, masters, etc.)		*
Resins, Synthetic (cellulose acetate type).....		*	Sheathings, Dry		Tons *
			Sheathings, Tar and Asphalt (saturated and/ or coated sheathings - Kraft base)	695	Tons 119,789

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

QUANTITY			VALUE	QUANTITY			VALUE
			\$				\$
Sheathings, Tar and Asphalt (saturated and/or coated sheathings - Non-knit base).....	Tons	401	49,497	Smocks and Hoovers, Cotton	Doz.		*
Sheets, Roofing and Siding (aluminum)			48,555	Smokestacks and Smoke-breeching			25,902
Sheets, Roofing and Siding (steel)			72,568	Soap Powders			*
Sherbet	Gals.		*	Soaps, Hand			*
Shingles and Shingle Type Sidings (asphalt saturated rag and asbestos felt)	Sqs.	369,037	2,638,878	Soaps, Hard (laundry and household).....	Lbs.		*
Shirts, Fine Dress or Business (cotton, rayon blends)	Doz.		*	Soaps, Liquid	Gals.		*
Shirts, Fine Sport (rayon, wool and wool mixtures)	Doz.		*	Socks, Men's Seamless			28,899
Shirts, Men's Hospital....	Doz.		*	Sodium Hydroxide - 100%..	Lbs.		*
Shirts, Men's Work (wool, cotton)	Doz.	24,770	1,019,557	Sodium Hypochlorite	Gals.		*
Shooks, Box	M.ft.b.m.		*	Solders	Lbs.		*
Shortening	Lbs.		*	Solvents			421,191
Shorts, Sport.....	Doz.		*	Spices			*
Shorts and Middlings	Tons	55,285	2,350,432	Spirits, Potable	Pf.gals.		*
Show Cards, Paper Signs..			22,312	Spools			*
Siding, Insulated (imitation brick, stone, wood block, wood shingle, etc.)	Sqs.		*	Sprayers, Agricultural (all types)	No.		*
Sidings (roll type rag and asbestos felt)	Sqs.		*	Spring Leaves, Brackets and U-Bolts, Helper			*
Signs, Electric (Neon & other luminous tube)			1,091,940	Spring Sets			*
Signs, Non-electric (all kinds)			391,265	Spring, Bed			223,758
Signs and Displays (plastic products)			*	Springs for Chassis - Flat...			*
Skids	No.		*	Sprockets			*
Skins, Calf	No.	82,568	468,440	Stackers, Hay (tractor mounted)	No.		*
Skins, Sheep	No.	61,469	131,086	Stamps, Daters & Other Marking Devices: (rubber)			*
Skirts, Cotton	Doz.		*	Steel, Reinforcing	Tons	12,887	2,190,046
Slabs, Roof & Floor			*	Steel, Structural (all types)			12,188,949
Sleighs	No.		*	Stencils (all kinds).....	No.		*
				Steps, Concrete			96,082
				Steps and Railings, Fences, Ornamental			270,494
				Stokers, Mechanical (commercial and industrial)	No.		*
				Stokers, Mechanical (domestic or residential) ...			*



ALBERTA GOVERNMENT PHOTOGRAPH

The popular Len Thompson fishing lures are manufactured at Lacombe.



ALBERTA GOVERNMENT PHOTOGRAPH

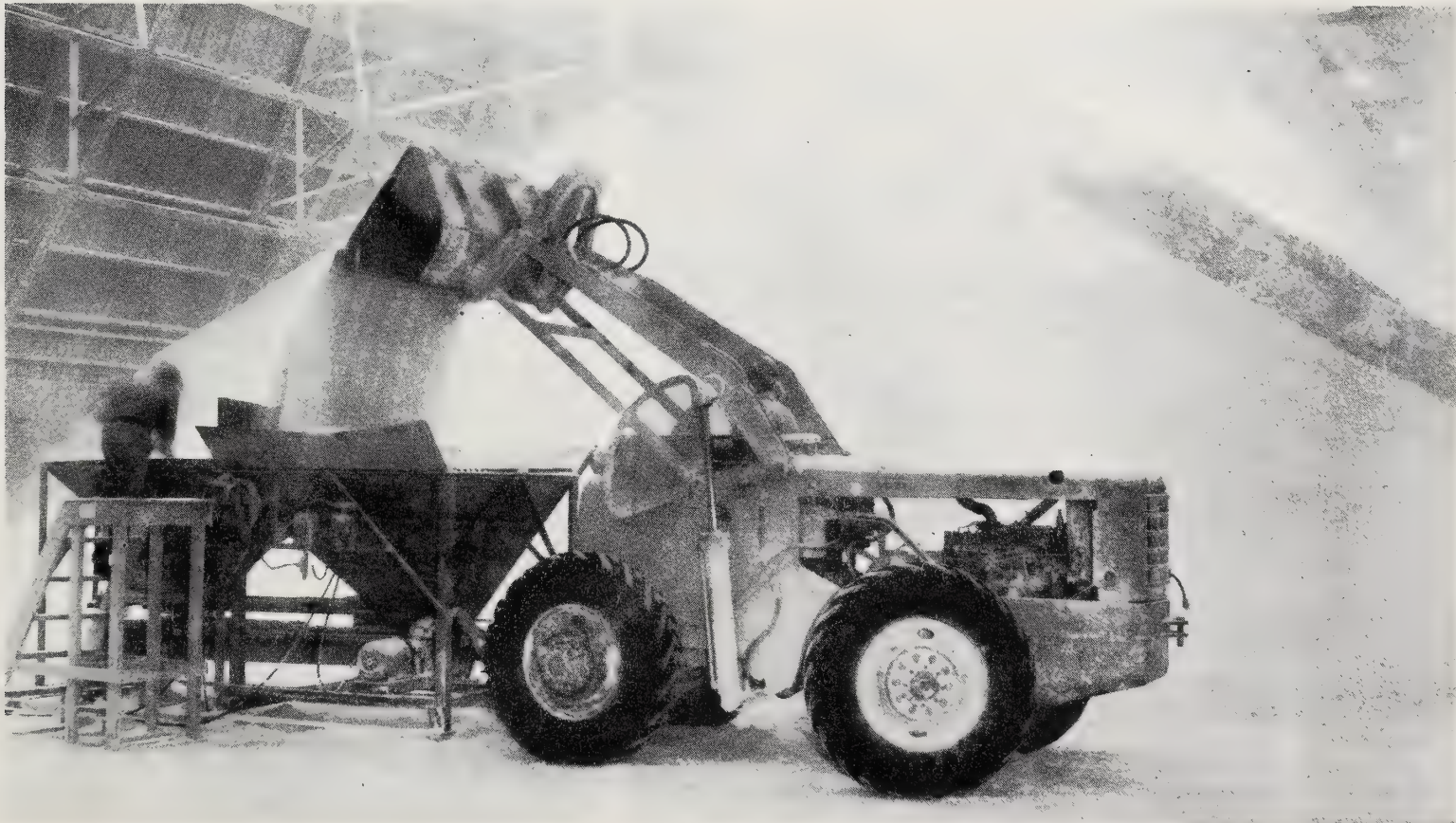
Steel concrete reinforcing rods, used in construction, are produced at the Edmonton plant of Premier Steel Mills.

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

QUANTITY		VALUE	QUANTITY		VALUE
		\$			\$
Stone - Building, Finished - Granite		*	Tanks, Stock	No.	*
Stone - Cast (products for architectural purposes, such as artificial stone, posts, etc.)		*	Tanks, Storage and Processing		1,569,638
Stone Products, Milled ...		*	Tanks, Transformer		*
Stones, Sidewalk		*	Tanks, Water		*
Stoves - Gas Heating and Heaters - Space	No.	*	Tank-house Products	Lbs.	14,695,393
Straps	Doz.	*	Tank-house Products, Raw Materials	Lbs.	9,404,603
Stucco Products	Tons	*	Tarpaulins		215,399
Studs		*	Tents	No.	1,130
Subs & Parts, Rotary		*	Tile, Drain	No.	956,442
Sugar (from beets)		*	Tile, Structural (hollow blocks)	Tons	34,290
Sugar, Icing (from beets)		*	Tonics, Stock and Poultry	Tons	*
Suits, Uniform - Non-military	Doz.	*	Tools, Fishing		*
Sulphur	Tons	*	Towels, Sheets and Canvas Goods		*
Sweaters, Cardigan and Pullover (wool)	Doz.	*	Towers, Transmission (structural work)	Tons	*
Sweeping Compound		125,956	Tractors, Power Units (hydraulic)	No.	*
Swivels, Power	No.	*	Trailers, Cabin or House Type		*
Syrups (for carbonated beverages)	Gals.	203,045	Trailers, Industrial		*
Syrups, Table	Lbs.	*	Trailers - Semi, Commercial		314,078
Tables, Coffee & End		*	Transfers, Decalcomania ..		*
Tags, Shipping, Labels ...		226,264	Transformers, Distribution	No.	*
Tallow	Tons	*	Traps, Plumbers' Cast Iron	No.	*
Tanks	No.	*	Traps, Plumbers' Brass Fittings	No.	*
Tanks, Gas Cylinder, Metal	No.	2,150	Type & Type Metals	Lbs.	*
Tanks, Other		133,339	Uniforms, Nurses, and Waitresses	Doz.	*
Tanks, Pressure and Vacuum		890,950	Uniforms, Nurses, Maids, etc. (cotton)	Doz.	*
Tanks, Steel Pneumatic	No.	*	Uniforms, Sport	Doz.	*
Tanks, Steel Septic		46,118			
Tanks, Steel Storage (for water and fuel oil, etc.)	No.	1,076,708			

ALPHABETICAL LIST OF PRODUCTS MANUFACTURED IN ALBERTA 1956

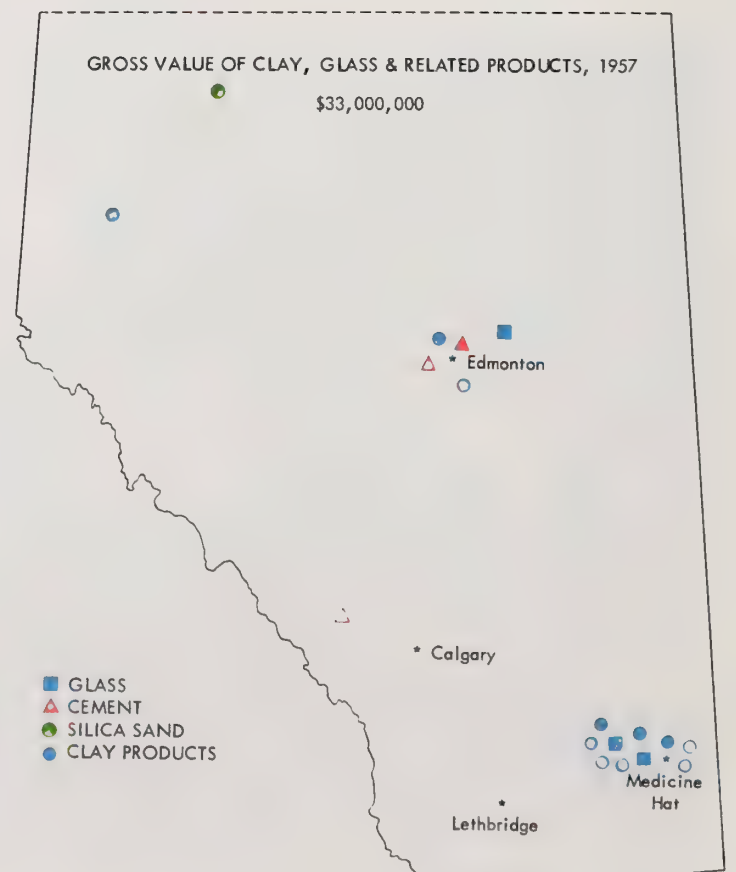
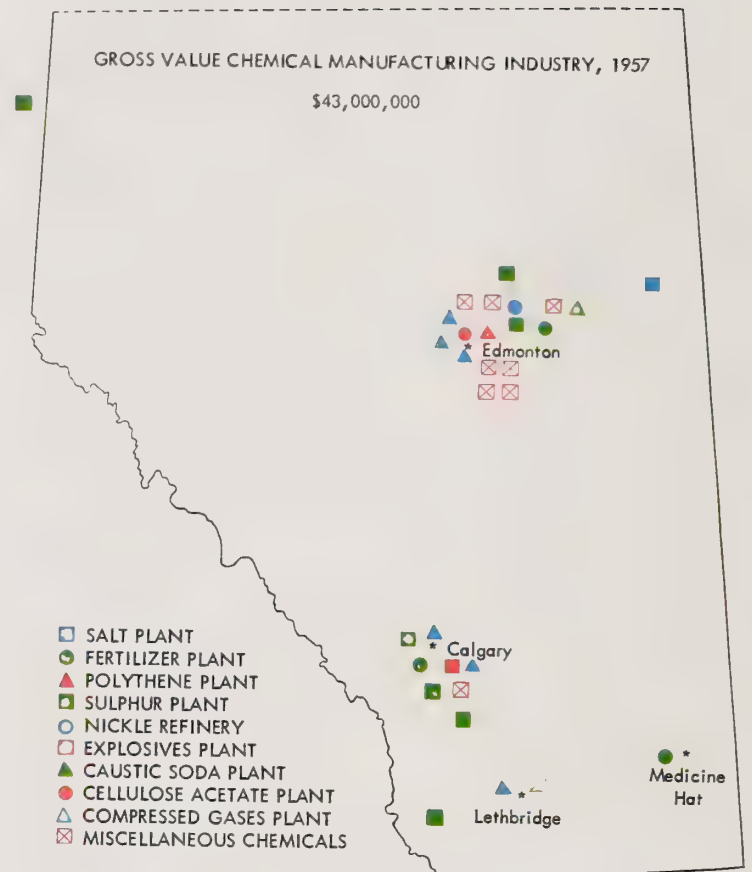
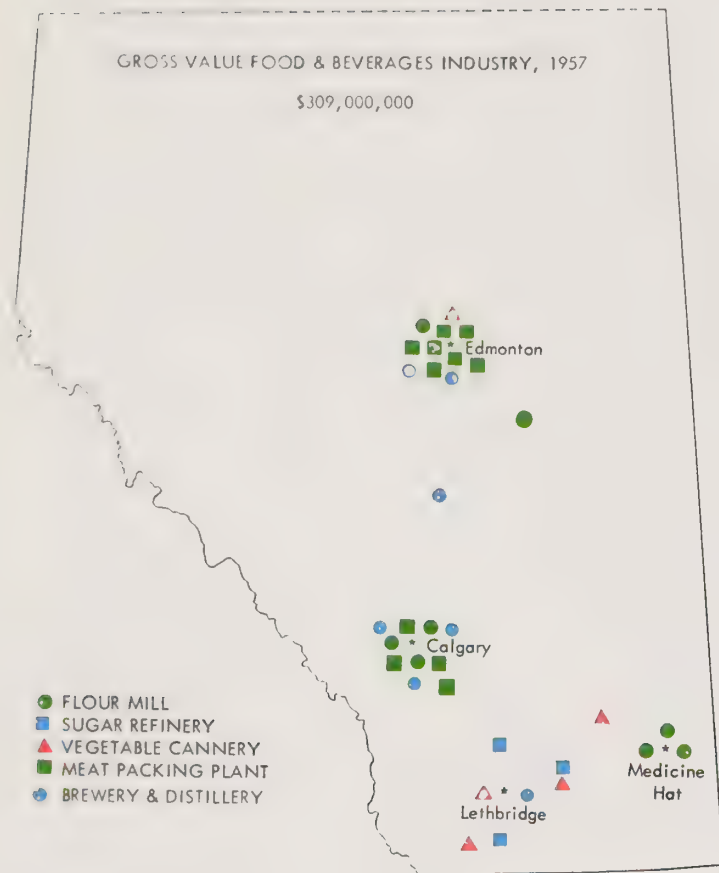
QUANTITY	VALUE	QUANTITY	VALUE
	\$		\$
Valves, Brass or Bronze (gate, globe, check, etc.)	*	Waste, Rags & Clips Lbs.	*
Valves, Hydraulic	*	Water Softener Lbs.	*
Valves, Iron Body (gate, globe, check, etc.)	*	Weed Killer	*
Valves, Steel, Except Alloy Steel (gate, globe, check, etc.)	*	Weeders, Rod No.	*
Vegetables, Frozen..... Lbs.	*	Wheatlets (prepared breakfast foods) Tons	*
Vegetables, Mixed (macedoine) (canned)	54,769	Whiskies (Canadian Rye).. Pf.gals.	*
Vehicles, Muskeg	*	Winches, Truck	*
Ventilation Equipment ...	*	Windows, Aluminum	804,052
Vinegar Imp.gals.	*	Windows, Steel	*
Vodka Pf.gals.	*	Windows, Combination Storm and Screen (as accessories to regular windows) (inc. doors)	*
Wall Members (pre cut for buildings)	*	Windows (other than steel or aluminum)	205,013
Wallboard, Gypsum M.sq.ft.	*	Wipers, Washed and Sterilized Lbs.	*
Wallboard, Straw Sq.ft.	*	Wool, Mineral - Granulated..... Cu.ft.	*
		Yeast, Fresh Lbs.	*



ALBERTA GOVERNMENT PHOTOGRAPH

The Sherritt Gordon plant produces chemical fertilizers as well as
nickle at Fort Saskatchewan.

INDUSTRIAL



RESOURCES

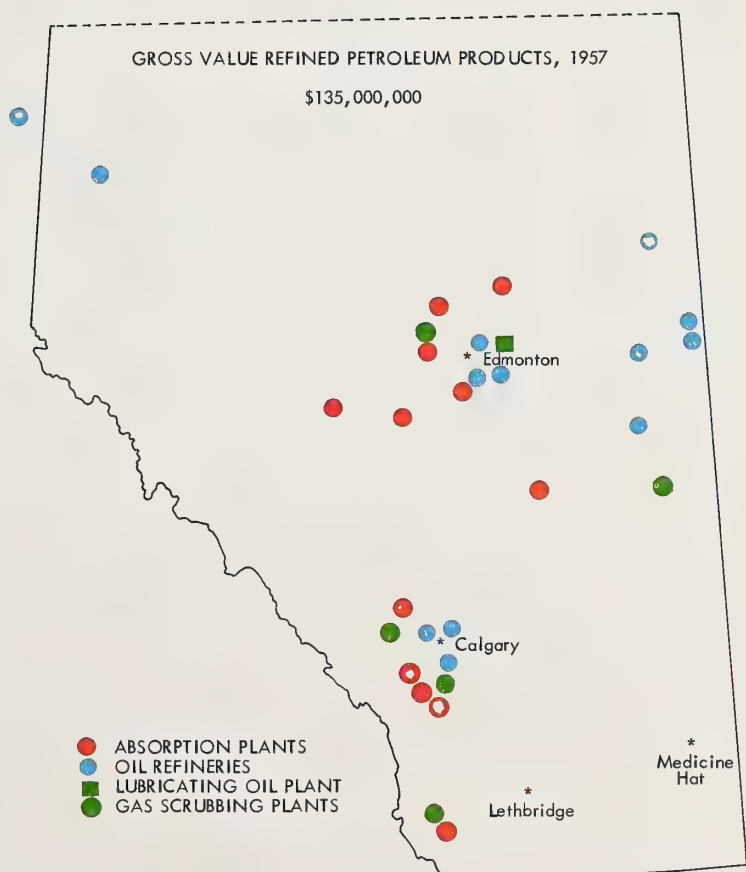
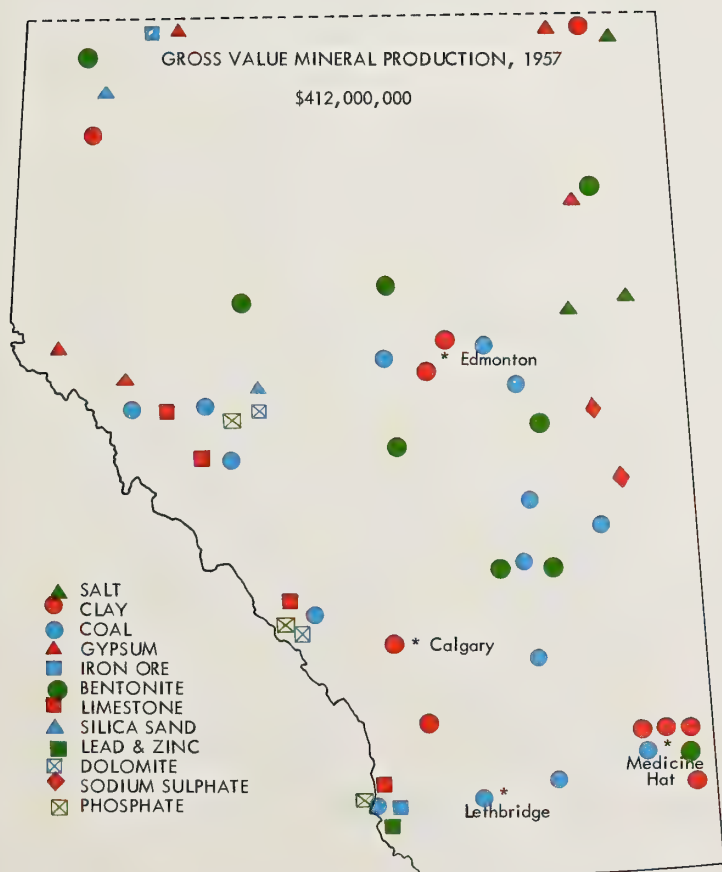
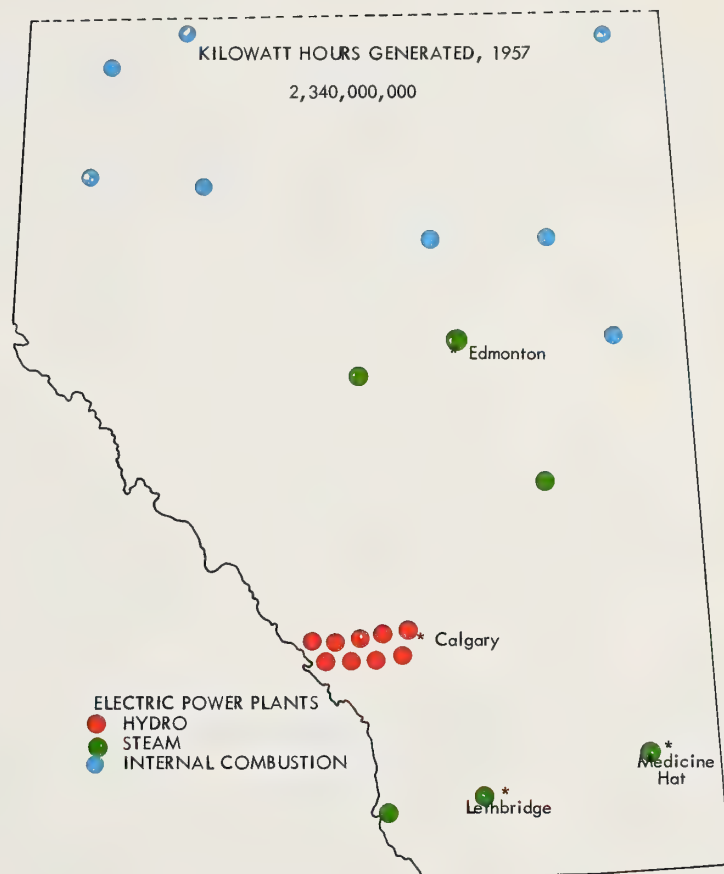
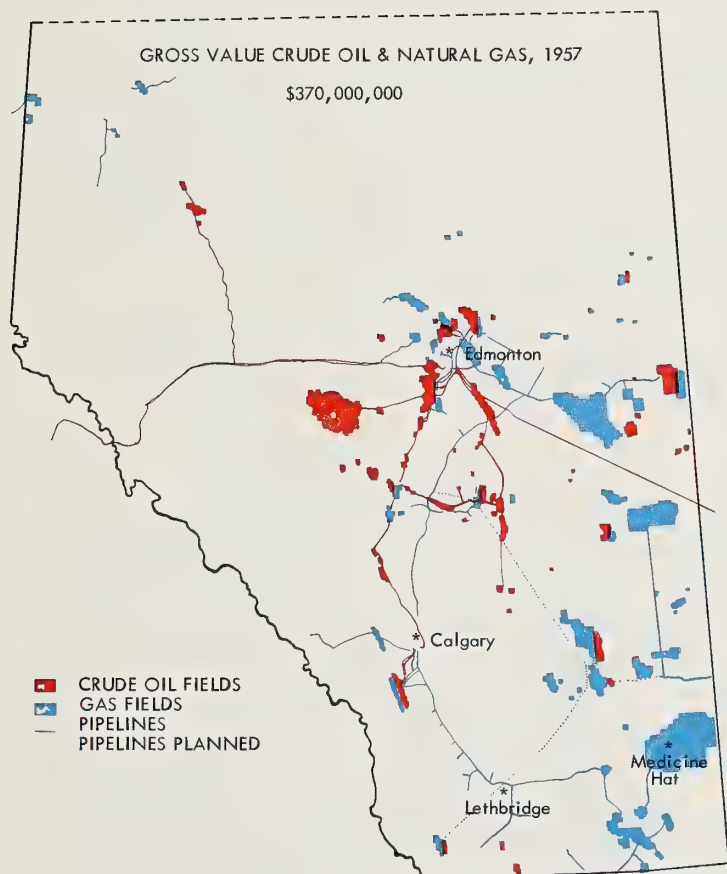


TABLE 20. MINERAL PRODUCTION, ALBERTA, 1947 - 1957
QUANTITY AND VALUE

PRODUCT	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
FUEL											
COAL	8,070,430 36,439,158	8,123,255 42,217,449	8,616,855 44,644,153	8,116,220 41,687,211	7,659,329 40,981,581	7,194,757 39,908,362	5,917,474 32,110,429	4,859,049 26,382,603	4,455,279 23,559,584	4,328,787 23,274,012	3,156,546 17,383,547
NATURAL GAS	44,106,643 7,745,886	48,965,217 8,324,087	51,179,779 2,558,989	58,603,976 2,930,199	69,876,831 3,493,842	79,149,895 5,936,242	89,651,605 6,723,870	107,173,777 8,038,033	133,007,493 9,975,562	146,133,893 10,960,042	183,140,820 13,735,562
PETROLEUM CRUDE	6,770,477 18,078,907	10,888,592 35,127,751	20,087,418 58,999,936	27,548,169 82,216,492	45,915,384 113,870,152	58,915,723 139,512,432	76,816,383 193,761,644	87,713,855 228,319,165	113,035,046 274,901,232	143,909,641 353,629,158	137,492,316 355,555,140
STRUCTURAL MATERIALS											
CLAY PRODUCTS	1,771,250	2,055,738	1,603,199	1,950,309	1,787,731	1,964,618	2,135,085	2,316,982	2,800,481	3,038,544	2,628,187
CEMENT	737,551 1,491,510	1,224,313 2,521,978	1,659,503 3,456,141	1,589,713 3,364,613	1,649,909 3,898,043	1,886,544 4,765,686	3,098,664 7,915,227	3,052,805 7,761,082	2,812,623 7,026,722	3,440,931 9,258,016	3,182,640 8,802,914
LIME	25,733 235,509	24,731 234,770	27,071 295,441	33,564 435,342	30,670 395,452	30,006 415,348	29,263 430,924	32,599 493,303	38,335 553,526	41,309 624,060	42,223 678,237
* SAND AND GRAVEL	2,058,142 1,170,883	3,592,275 2,219,497	2,448,814 1,553,589	3,866,662 2,572,795	4,289,021 3,194,446	5,066,403 3,590,687	7,651,261 5,097,720	7,313,380 4,867,410	7,819,933 5,894,341	10,522,441 8,877,806	11,801,422 9,981,716
STONE	13,883 57,600	14,298 57,444	13,632 55,025	12,894 54,197	13,310 46,820	22,773 92,499	18,833 84,639	27,017 135,315	45,659 240,728	66,820 343,166	80,565 394,123
METALS											
GOLD	78 2,730	78 2,730	115 4,140	152 5,784	97 3,574	111 3,804	65 2,237	195 6,644	214 7,387	119 4,100	416 13,957
SILVER	16 12	7 5	11 8	14 11	9 8	10 8	6 5	18 15	21 18	14 12	39 34
NON-METALLICS											
QUARTZ	— —	— —	700 10,500	300 2,700	— —	373 7,446	— —	— —	— —	— —	— —
SALT	29,698 438,825	34,613 449,780	28,359 547,304	25,606 539,287	19,718 472,562	24,380 614,522	24,885 601,515	31,196 722,183	41,408 1,014,745	46,654 1,162,982	46,935 1,038,346
TOTAL VALUE	67,432,270	93,211,229	113,728,425	135,758,940	168,144,211	196,811,654	248,863,295	279,042,735	325,974,326	411,171,898	410,211,763

* SAND AND GRAVEL ARE NOT LEGALLY MINERALS IN ALBERTA BUT ARE PART OF THE SURFACE IN ACCORDANCE WITH THE SAND AND GRAVEL ACT, 1951.

INDUSTRIAL MINERALS

Industrial minerals form an integral part of an expanding industrial economy, and an adequate and accessible supply is essential for the full development of any region. Because of comparatively low value per unit weight or volume, evaluation of deposits should consider fully the proximity to cheap transportation, and existing and potential markets.

The value of Alberta's production of industrial minerals was \$1 million in 1936, \$5 million in 1946, and nearly \$23.5 million in 1957. These figures are equivalent to 3.65%, 5.01% and 5.73% respectively of the total Canadian production of industrial minerals. The rapid expansion of the petroleum industry after 1947 naturally favoured an increase in population and the resultant increased demand for industrial minerals is indicated by the industrial minerals production statistics.

The maps show the distribution of the more important industrial mineral deposits. A number of mineral deposits which are not yet developed have also been treated in detail. Mineral deposits of only minor importance have been briefly mentioned.

SAND AND GRAVEL *

In general, economic deposits of sand and gravel are scarce in the plains of Alberta in comparison with other Canadian provinces. In the foothills and the Rocky Mountains economic sand and gravel deposits are very common. The main uses are for road surfacing and as aggregate for concrete. In 1957 production was valued at nearly \$10 million dollars.

Geologically, sand and gravel deposits of the plains of Alberta can be divided into three main groups according to age: Tertiary or preglacial, Pleistocene or glacial, and Recent. Tertiary sand and gravel deposits of the province are composed mainly of well worked and rounded quartzite pebbles derived from the Rocky Mountains. They are found capping bedrock topographic highs such as the Cypress Hills, the Hand Hills, and a number of other small bedrock knobs. In places Tertiary gravels are found in the plains in small channels of preglacial age. Generally, these sand and gravel deposits are of a good grade but comprise only a small fraction of the total production because of limited extent and often deep overburden. A large part of the gravel supply of the City of Edmonton is of this type.

Only about 10,000 years have passed since the disappearance of the last glacier which covered not only Alberta but almost all of Canada and large tracts of the United States. The meltwaters of the wasting glacier were often large in volume and usually were loaded with debris of bedrock over which the glacier passed. Most of the bedrock in Alberta is made up of soft Upper Cretaceous clays and sands and consequently most of the debris in the glacier was of that composition. Only a small fraction of materials were of gravel composition which had been carried to the plains by the glacier from the Canadian shield several hundreds of miles to the north. Consequently, glacial gravels are scarce in Alberta. They were deposited in economic amounts only in places where very large amounts of glacial meltwater washed out the fine material and concentrated the gravel fraction. Another factor which limited the concentration of glacial gravel in the province was the fact that over very large tracts of the province the last ice did not retreat in the normal fashion as mountain glaciers do, but wasted in place. Hence, only a few small end moraines were produced with associated outwash plains of sand and gravel, in comparison to Eastern Canada or Central United States where such features are common. Major economic glacial sand and gravel deposits in the province are encountered along the limited number of large glacial drainage ways. The City of Calgary is supplied by such sand and gravel. The Canadian National Railways gravel pit at Kinsella and many others fall into this category. Other types of glacial gravels and sands in the province are of local importance only because of their small volume and generally poor quality.

Recent sands and gravels in the province are found along present major drainage ways,

* Sand and gravel are not legally minerals in Alberta, but are part of the surface in accordance with The Sand and Gravel Act, 1951.

such as the North Saskatchewan River. These deposits, although poor in quality, often become important in the absence of better deposits — as in Edmonton.

The Foothills and the Rocky Mountains regions of Alberta are well supplied with sand and gravel because the bedrock in those areas under past and present conditions weathers to sand and gravel. In these areas both glacial and recent gravels are very common.

A survey of surficial deposits of Alberta has been undertaken by the Research Council of Alberta and the Geological Survey of Canada. At present a number of maps are available at both institutions which show not only the distribution of sand and gravel, but also other surface materials.

CLAYS AND SHALES

Clays and shales are widely distributed throughout Alberta. Strata of the Tertiary and Cretaceous systems contain variable quantities of bentonitic clay. The quantities available in some places are large. Non-marine shales of Cretaceous and Tertiary age outcrop over large areas of the plains and are used as the raw material for local brick and tile industries and, in the Cypress Hills area, are considered a potential source of fireclays, stoneware clays and, perhaps, of kaolin. The considerable quantities of glacial clays in the province are suitable only for the manufacture of bricks and tiles. Marine shales are generally unsuitable for the ceramic industry but may be used in the production of cement, rock wool, and lightweight aggregates.

In 1956 Alberta, with an output of clay products valued at \$2.8 million, accounted for eight per cent of the Canadian total. This figure does not include lightweight aggregate, valued at around \$400,000.

BENTONITE

Bentonite is a very fine-grained clay essentially composed of members of the montmorillonite group. Most bentonites are believed to have been derived from volcanic ash.

Bentonite is used chiefly to control the viscosity of oil-well drilling mud; other major uses are as a decolourizing agent of various oils and as a bonding agent in foundry sand molds. This clay also has an extensive range of minor uses; as a carrier for insecticides, as a detergent in cleaners, as a filler in paper and rubber products, and as a catalyst for the cracking of petroleum.

Most of the bentonite consumed in Canada is imported from the United States at present, although small quantities have been mined in Manitoba and Alberta. Deposits of bentonite are widespread in Alberta, being present in Cretaceous and Tertiary strata. Thick accumulations have been reported only from the Upper Cretaceous, particularly the Edmonton and Bearpaw formations. Two economic deposits, one near Rosalind, the other near Onoway, have been recently proved. Both of these are in the Edmonton formation and it is expected that production will commence in 1959.

Rosalind:

A total thickness of 9 feet of green and grey bentonite beneath 14 to 19 feet of overburden is being mined in Tp. 42, R. 17, W. 4th Mer. near the Town of Rosalind. These beds occur in the Edmonton formation; the green bentonite has a yield of 80 to 85 barrels per ton, and the grey bentonite has a yield of 60 to 65 barrels per ton. The content of abrasive material is about 0.5 per cent and it is expected that the green bentonite will be suitable for use as drilling mud without chemical treatment, whilst the grey bentonite will be marketed for other uses.

The output from this plant is likely to be about 12,000 tons a year. The present estimate of reserves is about 700,000 tons of bentonite.

Onoway:

The Edmonton formation in Tps. 56, 57, 58, Rs. 1, 2, W. 5th Mer. contains lenses of bentonite 3 to 30 feet thick beneath 10 to 50 feet of overburden. The bentonite is characterized by foreset bedding, and the deposits consist of interbedded pure and contaminated bentonite. In general, the yield as determined in the laboratory ranges from 40 to 60 barrels per ton, although some smaller

areas having much higher yields (up to 115 barrels per ton) have been reported.

A plant for production of the bentonite is being built at Onoway. Quality and quantity of the bentonite to be marketed is not known, and incomplete estimates put the reserves of all grades of bentonite at about 300,000 tons.

Beynon:

The Edmonton formation along the Rosebud river contains a bed of bentonite 3.5 feet in thickness. This bed has a yield of 51 barrels per ton and a silt content of 0.2 per cent. The extent of the bentonite bed is not known.

Bickerdike:

A bed of white bentonite 6 to 8 feet thick in the Saunders group (Cretaceous-Tertiary) outcrops along the McLeod River valley 200 yards upstream from a railway bridge. The bentonite has a low yield and has inferior decolorizing properties. A small quantity was mined in the past for use in cosmetics.

Dorothy:

The upper part of the Bearpaw formation in the vicinity of Dorothy contains a bed of bentonite 20 feet thick. This bed outcrops in the Red Deer River valley, and, although the tonnage available is probably considerable, the quality is poor — the yield being about 30 barrels per ton.

Drumheller:

A bed of bentonite 3 feet thick, in the Edmonton formation, has been mined for a number of years on a ridge 1.5 miles north of Drumheller. A single sample of the bentonite gave a yield of 56 barrels per ton and had a sand content of 2.3 per cent. An untreated sample of this bentonite was found to have a decolorizing ability equal to 60 per cent of that for commercial Floridin clay.

Grande Prairie:

An occurrence of bentonite has been located in the Wapiti formation (Upper Cretaceous) on the north flank of the Kleskun Hills. Subsequent work indicates that this bentonite is in the form of small lenses of limited extent. The yield is 40 to 60 barrels per ton.

Irvine and Bullshead Butte:

A bed of bentonite and pumicite 5 to 10 feet in thickness occurs 100 feet above the base of the Bearpaw formation in the area surrounding the Cypress Hills. Near Irvine pure bentonite ranges from 1 to 5 feet in thickness and passes laterally in an irregular fashion into volcanic ash or ashy-bentonite. The bentonite has a yield of 38 barrels per ton.

The bed described above is also present at Bullshead Butte. At this locality the bentonite is only 2 feet thick and has a yield of 58 barrels per ton.

Newcastle:

A bed of silty bentonite 5 to 10 feet thick in the Edmonton formation outcrops under light overburden. Three samples from the deposit gave yields ranging from 42 to 66 barrels per ton and had silt contents of 3.9 to 11.6 per cent.

Rosedale:

A thin bentonite bed is present in the Number 1 coal seam of the Edmonton formation throughout the Drumheller coal mining area. The bentonite is best developed in the Rosedale district, where it attains a thickness of 6 to 8 inches. A single sample taken from the Aetna coal mine at Rosedale had a yield of 90 barrels per ton and a negligible sand content.

Sheerness:

The bentonite bed which occurs in the Edmonton formation appears to vary from 1 to 5 feet in thickness. The bed is olive green in colour and is overlain by brown bentonite of slightly lower

quality.

The olive green bentonite has a yield of 58 barrels per ton and contains 0.5 per cent sand, and the brown bentonite has a yield of 43 barrels per ton and contains 1.7 per cent sand.

Although bentonite deposits are common throughout the Cretaceous and Tertiary strata in Alberta, it has been suggested that future exploration should be concentrated upon the Edmonton formation.

BENTONITE

Location	Thickness of Bed (feet)	Yield Barrels per Ton	Sand or Silt Content	Est. Reserves (tons)
Rosalind	9	60 - 85	0.5	700,000
Onoway	3 - 30	40 - 60		300,000
Beynon	3.5	51	0.2	
Bickerdike	6 - 8			
Dorothy	20	30		
Drumheller	3	56	2.3	
Grande Prairie	-	40 - 60		
Irvine and Bullshead Butte	2 - 5 - 10	38 - 58		
Newcastle	5 - 10	42 - 66	3.9 - 11.6	
Rosedale . . . . .	.5 - .7	90	Trace	
Sheerness (green)	(1 - 5	58	.5	
" (brown) . . . . .	(	43	1.7	

BRICK AND TILE CLAYS

Clays and shales suitable for the manufacture of brick and tile are common in Alberta. The principal requirements of brick and tile clays are that they should burn at a low temperature, have moderate plasticity to facilitate easy molding, and they should be free from drying defects such as cracking. The majority of brick and tile clays are red-burning.

The recent trend in the manufacture of brick and tile has been towards the establishment of a few large central plants rather than numerous small plants such as existed in Alberta in the past. In view of this trend, and because of the large amount of information on test results on clays and shales as compared to a small number of deposits whose location is known with any accuracy, the following will present general information regarding the suitability of shales in various formations for manufacturing brick and tile.

Blairmore Shales (Lower Cretaceous)

Many Blairmore shales would make brick and tile of good quality. Blairmore shales are generally free of the drying defects commonly associated with clays and shales in Alberta. Their chief disadvantage is the small number of places where large tonnages of shale of uniform character are available for stripping operations.

Alberta Shales (Upper Cretaceous)

A small number of tests suggests that some of the Alberta shales have very low plasticity. In other respects many of them appear to be suitable for the manufacture of brick.

Foremost and Oldman Shales (Upper Cretaceous)

The Foremost and Oldman formations are characterized by variable lithology and rapid horizontal changes, and although material suitable for brick and tile manufacture may be found, many of the clays and shales in these formations are highly plastic and give difficulty in air drying.

TABLE 21. PRODUCTION AND DISPOSITION OF BRICK AND TILE —ALBERTA, 1947 - 1957

NUMBER MADE		BRICK NO.	26,205,618	28,997,749	27,482,399	35,657,921	30,483,173	31,804,251	29,645,754	34,721,849	35,362,079	36,282,760	34,723,785
		TILE TONS	23,778	23,836	21,026	25,325	34,084	39,911	26,441	34,869	43,133	80,451	54,014
NUMBER PUT TO STOCK		BRICK NO.	2,070,297	1,645,774	1,525,651	1,825,956	830,050	1,550,686	670,736	2,908,860	4,320,625	2,581,619	6,326,794
		TILE TONS	3,338	2,180	903	294	156	942	218	287	1,297	18,161	16,177
NUMBER LIFTED FROM STOCK ...		BRICK NO.	104,506	—	607,000	324,742	926,351	755,050	1,081,000	1,217,047	935,920	1,959,000	737,000
		TILE TONS	—	—	—	726	1,462	—	10,007	218	2,990	478	30,597
NUMBER SOLD TO													
ALBERTA		BRICK NO.	12,274,843	13,863,392	15,096,390	18,246,371	16,873,305	18,361,724	17,805,119	21,561,294	20,277,168	24,521,935	21,542,976
		TILE TONS	—	—	—	—	—	—	—	—	—	49,115	58,513
SASKATCHEWAN		BRICK NO.	2,238,360	6,591,786	4,553,198	7,015,007	6,130,869	5,484,821	7,355,972	6,320,642	4,073,580	3,187,935	2,949,580
		TILE TONS	—	—	—	—	—	—	—	—	—	7,739	3,677
BRITISH COLUMBIA		BRICK NO.	7,136,232	3,051,471	3,656,131	5,110,291	4,371,191	3,915,400	3,801,527	3,576,200	3,670,521	2,754,071	2,326,765
		TILE TONS	—	—	—	—	—	—	—	—	—	1,485	1,937
MANITOBA		BRICK NO.	2,306,088	3,520,326	3,050,099	3,669,538	3,021,559	3,205,670	987,900	1,394,900	3,466,105	3,976,369	1,393,570
		TILE TONS	—	—	—	—	—	—	—	—	—	3,491	1,404
ONTARIO		BRICK NO.	284,304	325,000	120,000	115,500	159,550	28,000	105,500	130,000	381,500	770,000	352,450
		TILE TONS	—	—	—	—	—	—	—	—	—	938	587
ELSEWHERE		BRICK NO.	—	—	87,920	—	23,000	13,000	—	47,000	108,500	450,402	568,650
		TILE TONS	—	—	—	—	—	—	—	—	—	—	2,316
TOTAL SOLD		BRICK NO.	24,239,827	27,351,975	26,563,738	34,156,707	30,579,474	31,008,615	30,056,018	33,030,036	31,977,374	35,660,141	29,133,991
		TILE TONS	20,440	21,656	20,123	25,757	35,390	38,969	36,230	34,800	44,826	62,768	68,434

This difficulty can be overcome by preheating the clays, by suitable chemical treatment or by using the more sandy clays or shales in these formations. (The last procedure is less desirable since sandy clays produce weaker and more porous bricks.)

Bearpaw Shales (Upper Cretaceous):

A small number of tests on samples from the Bearpaw shales suggests that their tendency to form white scum on bricks during firing makes them undesirable as brick clays.

Edmonton Shales (Upper Cretaceous):

Clays and shales in the Edmonton formation are similar to those in the Oldman and Foremost formations, except for a tendency toward higher plasticity and higher air shrinkage. As a result of this feature, the majority of them are unsatisfactory raw materials for brick manufacture. Some of the better Edmonton clays might be utilized if suitable pre-heating or chemical treatments were used.

Whitemud Clay (Upper Cretaceous):

Clay of the Whitemud formation in the Cypress Hills area is in places suitable for the manufacture of bricks, although the distance from manufacturing centres is probably too great for economic development at present.

Paskapoo Shales (Tertiary):

In some areas shales of the Paskapoo formation are quite suitable for the manufacture of bricks, but most of the outcrops of the formation consist of sandstone or interbedded sandstone and shale. Thicker shales possibly occur in the Paskapoo and may be found by a thorough investigation. Some of the shales of the Paskapoo are calcareous, and therefore tend to form a buff brick with high porosity.

Pleistocene Clays:

Pleistocene clays in Alberta seem to bear a general similarity to the bedrock of the province. Many of them have high plasticity and high air shrinkage, and some of them derived from the Paskapoo formation are calcareous. Bricks may be made from the silty Pleistocene clays, and many of the less silty clays probably would respond to one or more of the various treatments to overcome drying defects.

LIGHTWEIGHT AGGREGATE

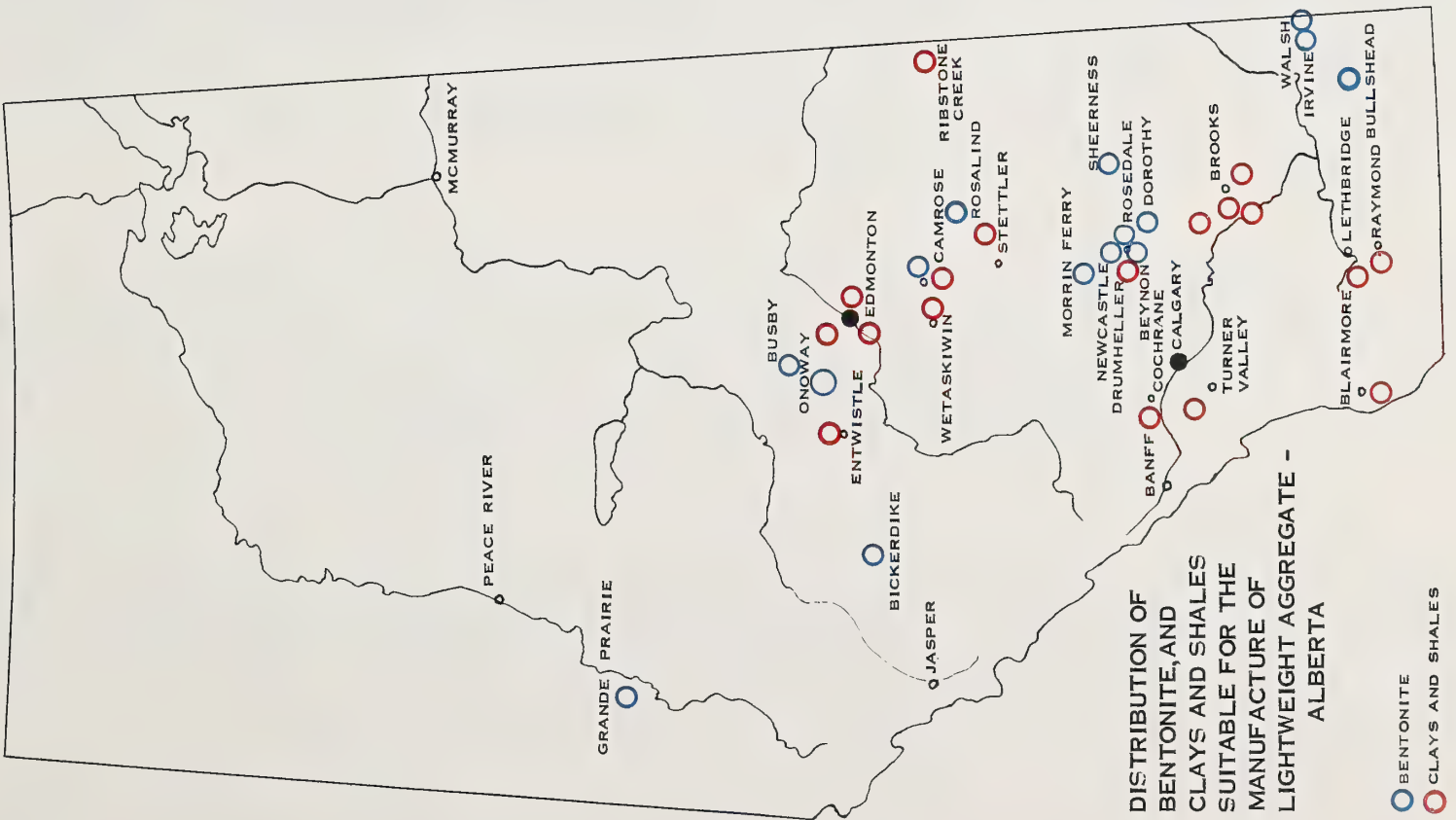
The addition of lightweight aggregate to cement is capable of effecting a decrease in deadload of from 30 to 80 per cent. The amount is pre-determined by the particular use of the concrete.

A preliminary survey of Alberta clays and shales to determine their suitability for use in the manufacture of lightweight aggregate has been carried out. It was found that the most suitable materials contained 60 to 80 per cent silica; 15 to 30 per cent alumina; and 10 to 20 per cent combined calcium, magnesium, sodium and iron oxides. The raw materials should yield a product having the following properties:

1. High strength-to-weight ratio
2. Low absorption
3. Smooth spherical particles
4. Uniform size gradation
5. Chemically inert

Since 1952 plants have been set up in Calgary and Edmonton for the manufacture of lightweight aggregate. The Calgary plant uses shales from the Paskapoo and Oldman formations, whilst the Edmonton plant uses Recent clays.

One hundred and eight samples of marine and non-marine shales, and Pleistocene and



Recent clays have been collected and tested. A far greater percentage of the marine shales proved to be suitable for the manufacture of lightweight aggregate than the other types. However, both marine and non-marine shales of Jurassic and Cretaceous age have been noted as possible sources of raw material at various localities. The more important occurrences are shown on the map.

STONEWARE AND REFRACTORY CLAYS

No workable deposits of clay suitable for the manufacture of high quality china or refractory bricks have been yet discovered in Alberta. However, kaolinitic sands occur in the Whitemud formation in Saskatchewan and Alberta, and it has been suggested that the Alberta deposits of the Cypress Hills area may be a suitable source of kaolin.

There are considerable deposits of stoneware and lower-grade refractory clays in the Cypress Hills area of southeastern Alberta, and along the Athabasca River in northeastern Alberta.

Cypress Hills:

Many of the clays occurring in the Whitemud formation (Upper Cretaceous) in Saskatchewan have proved to be of high quality, and for this reason a detailed survey of the Whitemud formation in southern Alberta has been made.

The Whitemud formation consists of up to 25 feet of light grey clays, brown clays and argillaceous silts. Erosion has resulted in the absence of the Whitemud formation over a large part of the area. The formation is characterized by thin beds showing rapid horizontal changes in lithology and ceramic properties. The high air shrinkage of all except the most silty clays suggests the presence of montmorillonite in the clays.

Fireclays should have a fusion point greater than 1605°C . The refractory properties are expressed in terms of the pyrometric cone equivalent (P.C.E.) which is a measure of the softening temperature. The fireclays and semi-fireclays of the Cypress Hills area have a P.C.E. ranging from 20 to 30, which corresponds to softening temperatures of 1532°C to 1649°C . These beds, considered most favorable for development, are generally about 3 feet in thickness, and covered by 10 to 30 feet of overburden, some of which is clay of stoneware grade. Similar clays in the Whitemud formation in Saskatchewan are presently being exploited.

Stoneware clays should have good plasticity, good working strength, low shrinkage and refractory properties sufficient for the ware to hold its shape during burning. This type of clay is used for the manufacture of general crockery and sewer pipes, and low grades may be used for terra cotta works, such as vases and teapots. Most of the Saskatchewan output is of this type, and the large scale manufacture of sewer pipes at Medicine Hat uses clays from Saskatchewan.

The Whitemud formation of the Cypress Hills contains stoneware clay, fireclay and other high-grade clays. Many of these clays could be improved by simple treatment or blending. Although the clays show a general increase in thickness and quality eastwards, the deposits in the western part of the Cypress Hills are somewhat more accessible and covered by thinner overburden; thus further investigations should be concentrated here.

Athabasca River

Some clays lying on the pre-Cretaceous erosion surface of Devonian limestone beneath and within the bituminous sands of the McMurray formation north of McMurray are of possible value as semi-fireclays or stoneware clays. The clays at the base of the McMurray formation are extremely variable, ranging from clays which have no ceramic value to semi-fireclays.

Insufficient work has been done in the Athabasca River area to permit more than general recommendations. Despite the wide variation in quality exhibited by the clays, some show promise as stoneware clay and deserve further investigation.



ALBERTA GOVERNMENT PHOTOGRAPH

A foothills industry is the Exshaw cement plant.

The major constituent of high-grade whiteware and refractory clays is kaolinite. This clay mineral is rarely present in significant concentrations in marine shales and clays, and hence future exploratory work should be concentrated upon non-marine formations. However, tests upon samples, from the Foremost, Oldman, Edmonton and Paskapoo formations in central and southern Alberta show them to be unsuitable for ceramic purposes. Nevertheless any clay which is low in iron, has below average plasticity, and is non-calcareous, is worthy of investigation.

DOLOMITE

Dolomite has a wide variety of uses: for example, in various refractory compositions, as a source of agricultural magnesium, and in the extraction of magnesium hydrate from sea water.

Large quantities of dolomite are available in the Rocky Mountains of Alberta but few deposits have been tested for purity and none is being quarried in the province. Locations of the deposits of dolomite and gypsum are shown on the map.

Kananaskis:

The easternmost mountain, just north of the railway at Kananaskis, is composed very largely

of pure dolomite with lesser bands of high-calcium limestone interbedded with mottled magnesium limestone at the summit and the base.

Gap Lake:

A considerable thickness of dark blue and dark brown Devonian-Carboniferous dolomite is reported to be present in the vicinity of Gap Lake. A 40-foot band of dolomite is exposed in a suitable position for quarrying north of the highway and opposite the centre of Gap Lake.

Banff:

On the east face of Sulphur Mountain is a section of dolomite nearly 1000 feet in thickness, assigned to the upper and middle members of the Lower Minnewanka limestone (Upper Devonian). The overlying upper member consists of about 250 feet of dolomite which has not been sampled.

Sawback:

Beds of pure dolomite of Cambrian age, interbedded with shales and impure limestones, are exposed for about 1500 yards along the southern slopes of Mt. Edith.

Nordegg:

A thickness of 250 feet of brown, medium-grained, compact dolomite is reported within Devonian-Carboniferous formations in a cutting at mile 146 of the Canadian National Railway.

The deposits described above were discovered in the course of a survey primarily designed to discover limestone deposits. Discovery of further dolomite deposits adjacent to rail transportation should not be too difficult if a demand for dolomite should arise.

GYPSUM

The chief uses for gypsum are for the manufacture of plaster of Paris and wallboard, and as an ingredient of Portland cement. Plaster and wallboard are manufactured at Calgary, utilizing gypsum from British Columbia and Manitoba.

Gypsum and anhydrite are common minerals in Alberta. No surface deposits of gypsum have yet been located in readily accessible areas, although deposits do occur at a moderate depth in the vicinity of Waterways. The location of known deposits and a description of the individual deposits follows:

Peace Point:

Gypsum of Middle Devonian age is exposed on both banks of the Peace River for a distance of 18 miles from a point 5 miles below Peace Point, to Little Rapids upstream. The gypsum is usually white and massive. In places it is earthy and thin bedded, or holds narrow bands of dolomitic limestone. Selenite is rare, but thin veins and beds of satin spar are common. Anhydrite is occasionally present in rounded nodules or in thin beds.

When this gypsum deposit was first examined, consideration of the economics of development was largely academic. However, with the recent recommendation that a railway passing near the deposit be built from Waterways to Great Slave Lake, it becomes important to assess the reserves and grade of the gypsum deposit. From the rather general examination made, it appears that an estimate of 217,000,000 tons is quite conservative. Indications are that the average thickness of the gypsum beds is considerably in excess of 15 feet; the broad meanderings of the Peace River clearly show an area of at least 60 square miles as underlain by the gypsum series. The Peace River forms a ready means of access to much of the gypsum. It has cut deep into the gypsum seams and at a number of points has removed much of the overburden so that large quantities of material are very favorably situated for mining or quarrying.

Several occurrences of Middle Devonian gypsum have been recorded along the Salt and Slave Rivers.

Salt River:

About 4 miles south of the forks of Salt River, 40 to 50 feet of impure thinly bedded gypsum are exposed in an escarpment. This escarpment continues northwestwards across the Little Buffalo River and continues in the same general direction for about 40 miles. It is believed that gypsum is present at the base of this escarpment for the greater part of its length. However, the gypsum decreases in thickness northwards, for 8 miles southwest of Fort Fitzgerald only 20 feet of thinly bedded gypsum are exposed.

Slave River:

A few miles downstream from La Butte, 10 feet of thinly bedded impure gypsum are exposed. The gypsum is overlain by 20 feet of fractured limestone. Below Point Ennuyeux, also on the Slave River, 4 feet of thinly bedded impure gypsum are exposed near water level.

Thin beds of impure gypsum are interbedded with arenaceous limestones at Gypsum Point on Great Slave Lake. It is probable that they are of Middle Devonian age and should be correlated with the deposits on the Peace, Salt and Slave Rivers.

Waterways:

Several wells in the general vicinity of Waterways have encountered gypsum. Varying proportions of anhydrite are associated with the gypsum. Core descriptions of 4 wells indicate that gypsum is present in thicknesses suitable for mining purposes, although it is of uncertain purity. The most promising bed occurs between 515 and 580 feet below ground level (Alberta Government Salt Well No. 2) and is described as an upper mottled gypsum and a lower massive white gypsum.

A particularly noticeable feature of the gypsum is its tendency to grade laterally into anhydrite. It has been suggested that the gypsum is secondary, and was produced by hydration of anhydrite. If this is true, it can be expected that the proportion of gypsum will increase with a decrease in depth. On this basis, it is possible that pure gypsum may exist towards the theoretical outcrop belt of the gypsum in the east or northeast.

Mowitch Creek:

A gypsum deposit occurs near the northern boundary of Jasper Park. The strata are all steep dipping ... the rock succession consists of beds of pure white gypsum interbedded with impure gypsum, chert and shale intermixed and other beds of red, buff, yellow brown and grey limestone, siliceous and cherty limestone, quartzite and shale. The thickest bed of pure white gypsum examined measured about 12 feet, but much thicker beds of gypsiferous rock occur.

Fetherstonehaugh Creek:

A large deposit of gypsum on the British Columbia - Alberta boundary at the headwaters of Fetherstonehaugh Creek has recently been discovered. This deposit consists mainly of white, fairly massive sucrose gypsum with lesser amounts of grey, well-bedded limy gypsum. A thickness of more than 50 feet of gypsum is exposed in several of the many sinkholes which are associated with the deposits. The gypsum appears to be overlain by a sequence consisting of dolomite breccia interbedded with greater thicknesses of light grey, thinly bedded, cherty dolomite.



ALBERTA GOVERNMENT PHOTOGRAPH

Most Alberta communities have modern water and sewer systems.
Shown here is Alberta-made sewer pipe.

The gypsum deposits at Peace Point are undoubtedly the most suitable for development in Alberta. Present known reserves are very large and the purity compares favorably with other commercial deposits (which range from 95 to 97 per cent gypsum). The thin overburden should permit ready removal of the gypsum by quarrying and, should the proposed railway from McMurray to Great Slave Lake be built, shipment to marketing centres will be an economic possibility. Because the deposit lies within Wood Buffalo National Park, revised federal legislation giving adequate protection to the indigenous fauna would be necessary before development could proceed.

Although field relationships in the vicinity of the Mowitch Creek gypsum deposit suggest that it is a local development, further work in the westernmost Triassic outcrops of the province might show that other Triassic gypsum deposits do occur. Unfortunately, most of the area favorable for the occurrence of Triassic gypsum lies inside National Park boundaries. The most favorable areas outside National Parks are north of Jasper National Park and west of Nordegg. The latter area is more attractive from the point of view of accessibility.

The occurrence of considerable thicknesses of anhydrite in the Devonian and, to a lesser extent, the Mississippian strata underlying the plains of Alberta and the presence of gypsum and anhydrite in the foothills region, suggest the possibility of gypsum deposits in the Devonian or Mississippian strata outcropping in the mountains.

LIMESTONE

Limestone is an essential raw material of an industrial economy, and, because of its low cost and the large bulk required, deposits must be situated comparatively close to manufacturing centres. For these reasons limestone deposits in other provinces do not compete with the supplies of Alberta.

In Alberta, limestone is used chiefly for the manufacture of cement and lime. Cement production prior to 1948 fluctuated between 200,000 and 800,000 barrels a year. Subsequent to 1948 production has generally increased, being 3,670,000 barrels in 1956; that is, about 12 per cent of the Canadian total. Lime produced in 1956 was 39,743 tons and represented 0.3 per cent of the national production.

Limestone beds are present throughout the Paleozoic strata and are also found in Triassic beds; outcrops of Paleozoic deposits are confined to the western and northeastern parts of the province. Only the limestones of the front ranges of the Rockies and those present in Paleozoic outliers in the foothills may be considered as potentially economic at present, and even here close attention must be given to transportation facilities.

Kananaskis:

The quarrying of Cambrian limestone for the manufacture of lime is now carried on at Kananaskis.

In this vicinity, the Cambrian consists of a series of thin alternating beds of magnesium limestone and dolomite with a few high calcium beds. The degree of dolomitization varies both across and along the bedding, even in the high-calcium beds, but to a much lesser extent in these. There are at least three bands of dense pale, grey, high-calcium limestone, varying in width from 40 to 80 feet and separated from each other by from 75 to 150 feet of magnesium limestone.

Frank:

Periodically proposals have been made to use blocks of Mississippian limestone that fell into the Crowsnest valley in the Frank slide of 1903. Much of the limestone available in the slide material is cherty, some is highly magnesium and siliceous, and only a relatively small proportion is of pure high-calcium type. Since the pure limestone blocks are mixed with the impure blocks, the limestone cannot be used for any purpose for which a uniform chemical composition is required.

Blairmore:

Just east of Blairmore at the base of Turtle Mountain and south of the railway, Mississippian limestone of variable quality is exposed. At the eastern edge of the main quarry a 24-foot bed of pure limestone is overlain by 18 feet of cherty magnesium limestone which is overlain in turn by 80 feet of limestone.

Crowsnest Pass:

A considerable thickness of Devonian-Mississippian limestone and dolomite of varying purity is exposed along the north side of the Canadian Pacific Railway line from the east end of Crowsnest Lake to near the British Columbia boundary. Quarries presently being worked are located west of Crowsnest Lake. Three quarries have been opened in a 400-foot bed of medium-grained limestone which contains occasional thin interbeds of chert and magnesium.

Opposite the east end of Island Lake a spur 600 feet in height consists mainly of high-calcium limestone totalling about 150 feet in thickness. East of the spur, 100 feet of pure limestone is separated from the 150-foot bed described above by a limestone conglomerate or breccia. Two other bands of limestone, 40 and 30 feet thick respectively, are exposed in an unfavorable location for quarrying.

Exshaw:

At Exshaw approximately 100 feet of limestone from the upper part of the Palliser formation are presently being quarried. Most of the beds are high-calcium limestone, but a few thin beds of magnesium limestone are also included.

The Gap:

From 1906 to 1914, quarries were operated in two ridges of Mississippian limestone on the southern slope of Grotto Mountain, about 250 feet above the railway. The lower limestone band, 75 feet thick, is separated from an upper band 20 feet thick by 100 feet of cherty limestone and siliceous dolomite.

Nordegg:

About 4.5 miles east of Nordegg, a thick succession of impure cherty limestones of Devonian-Mississippian age is exposed along the Canadian National Railway. Relatively pure limestone occurs in the sequence in layers up to 50 feet thick.

One mile east of Nordegg a small quarry has been opened for ballast in a 20-foot bed of limestone of which the upper 10 feet is pure. West of the quarry, a 40-foot bed of pure limestone is exposed.

Cadomin

Devonian-Mississippian limestone is exposed along the Canadian National Railway Mountain Park line for approximately 500 feet immediately north of the 25 mile post. South of the 25 mile post a small ridge of limestone outcrops.

Brule:

Massive limestone with occasional beds of mottled magnesium limestone of Devonian-Mississippian age is exposed at Ogre Canyon, approximately 3 miles southwest of Brule. A ridge southwest of Ogre Canyon is composed of pure limestone with occasional partings of magnesium limestone, some of which contains chert nodules.

Roche Miette

On the north side of Roche Miette, Devonian limestone is exposed along the old railway right of way on the south bank of the Athabasca River. One-quarter of a mile south of the above locality, a quarry was formerly operated. About 15 feet of pure limestone is present at this quarry.

Henry House:

A quarry formerly operated is located on a ridge to the west of the Canadian National Railway, about 4.5 miles north of Jasper. The limestone strata are of Devonian-Mississippian age and under light overburden for a considerable distance northwest of the quarry. One hundred and fifty feet of limestone similar to that described above, but stratigraphically higher, is exposed in a railway cutting just south of the quarry.

The limestone deposits described above are in Jasper National Park and therefore their exploitation is forbidden by law.

McMurray:

Beaverhill Lake limestone of Upper Devonian age is exposed near river level at the junction of the Clearwater and Athabasca Rivers.

Hillspring:

A bed of fossil oysters, 13 feet thick, in the Upper Cretaceous outcrops near Cardston. The coquina, composed essentially of shells of ostra and corbicularia, is pure except for a few thin shale lenses. The strata in this area are faulted, and consequently it is impossible to estimate available reserves of material without more detailed examination.



COURTESY OF SUMMIT LIME LTD.

A major lime producer in Alberta is the Summit Lime Works of the Crowsnest Pass area.

Commercial limestone deposits in Alberta are largely confined to the mountains but limestone also occurs along the margin of the Precambrian Shield in northeastern Alberta. Over the remainder of the plains and foothills area coquinas occurs sporadically throughout the Cretaceous section, although none of these has yet proved thick enough or extensive enough to be of any value. Fresh water limestones are reported in the Paskapoo formation, but these are thin and discontinuous. Another source of lime in the plains area is provided by marl deposits, which are discussed in a later section.

Since limestones and dolomites frequently exhibit rapid lateral changes in composition, impure beds of limestone may grade into pure limestones within a few hundred feet of the outcrop examined. Consequently, the deposits noted above are not necessarily the only deposits of pure limestone near railway facilities in Alberta.

PHOSPHATES

The chief use of phosphate is in the manufacture of fertilizers, although it is also used in small quantities in several other industries, such as in ceramic products, sugar refining, and in rodent poisons.

There has been no significant production of phosphate in Canada for over 60 years, but phosphate in Quebec and Ontario were mined prior to the development of deposits in the United States. Beds of low-grade phosphate rock are widespread in the Rocky Mountains, but none of the deposits in Alberta so far investigated have proved to be economic.

Perdix Formation (Devonian)

At Wapiabi Gap and Deception Creek, strata of the Perdix formation are overlain by phosphatic and pyritiferous limestones with rolled bone fragments. The phosphate content is believed to be small.

Exshaw Formation (Devonian)

Black shales underlying Mississippian strata are phosphatic in the Crowsnest, Banff and Jasper areas. At Crowsnest (British Columbia) there is an upper oolitic phosphate bed 0.6 feet thick, containing 50.8 per cent calcium phosphate, and a lower nodular phosphate bed, 0.6 feet thick, containing 37.4 per cent calcium phosphate. These two beds are separated by 1.7 feet of black shale, containing 6.7 per cent calcium phosphate.

Rocky Mountain Formation (Pennsylvanian-Permian)

A variable bed of phosphate is developed at or near the top of the Rocky Mountain formation over a considerable area where this formation outcrops. The formation increases in thickness towards the west, and the phosphate content also increases in the same direction.

Spray River Formation (Triassic)

The basal beds of Spray River formation in the Highwood-Elbow area consist of phosphatic limestone or chert breccia, about 2 feet thick and containing up to 10 per cent calcium phosphate.

Basal Fernie Formation (Jurassic)

The basal bed of the Fernie formation is generally phosphatic. Near Bankhead in the Banff area, an oolitic phosphate bed 2 feet thick contains 40 per cent calcium phosphate. In another section 5 miles south of the Panther River, northeast of Banff, an oolitic phosphate bed 0.6 feet thick contains 37 per cent calcium phosphate, and is underlain by 0.4 feet of phosphatic limestone containing 13 per cent calcium phosphate.

In other areas the basal Fernie beds consist of black phosphatic shale containing several per cent calcium phosphate, and in places a thin phosphatic conglomerate is present averaging about 25 per cent calcium phosphate. These areas where the phosphatic beds are thin and low in phosphate content are in the easternmost ranges of the Rocky Mountains. It is possible that the phosphate bed in the basal Fernie formation thickens and becomes richer towards the west.

Fernie Belemnite Bed

About 150 to 250 feet above the base of the Fernie formation a calcareous sandstone, characterized by the presence of numerous belemnites, contains nodules or oolites of phosphate. Although this bed appears to be widespread, the phosphate content is erratic;

Pocahontas - 15 feet of belemnitic sandstone, 26 per cent calcium phosphate;

Oldman River - 1.2 feet of belemnitic sandstone, 9.5 per cent calcium phosphate;

Nordegg - 0.8 feet rusty weathering phosphatic bed containing 58 per cent calcium phosphate, underlain by 0.1 feet of phosphate and chert pebbles containing 29 per cent calcium phosphate.

The richest beds of phosphate so far discovered in Alberta occur near the top of the Rocky Mountains formation and at the base of the Fernie formation. Both of these beds appear to become richer and thicker towards the west, and thus many of the more favorable areas for phosphate lie within National Park boundaries. Therefore, whilst prospecting and mining development in National Parks remains unlawful, further prospecting for phosphate should be concentrated in the area immediately south of Banff National Park, west of Nordegg, and north of Jasper National Park.

SALT

Common salt has a wide range of industrial and domestic uses, such as in the chemical industry, in refrigerator cars, for water softeners, in the tanning industry, and for dust and ice control on roads.

A considerable area of east-central Alberta is underlain by deposits of common salt which occur as beds of varying thicknesses and continuity within strata of Devonian age. The more important deposits lie within the Elk Point group (Middle Devonian) though lesser deposits have been recorded in the Stettler formation (Upper Devonian) in the Stettler area.

The salt beds have a general southwesterly dip, being 600 to 800 feet below surface near McMurray, and 5,000 to 6,000 feet below the surface near Edmonton. The deposits thin out in the south near Patricia, on the west a few miles west of Edmonton, and in the north beyond McMurray although it is possible that an attenuated evaporite sequence may outcrop beneath drift northeast of McMurray.

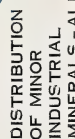
At present salt is produced by wells at Lindbergh for domestic and industrial consumption and at Duvernay for the manufacture of caustic soda and chlorine.

Elk Point Group:

The Elk Point group forms a predominantly evaporitic sequence of dolomite, anhydrite and salt which shows a lateral transition to shales and sandstones towards the margins of the basin. Three main salt beds have been found, although this sequence is not generally complete except in the central part of the basin.

The earliest subsurface salt discoveries were made in the McMurray area. Salt beds, 100 feet and 90 feet thick respectively and separated by 75 feet of limestone were found. A number of wells put down in this area encountered a salt bed up to 200 feet thick, and one of these wells was operated for the commercial extraction of salt. It is unlikely that there are further salt beds of significance at depth since another borehole in the same general area passed through two salt beds at 625 and 748 feet respectively and penetrated precambrian at 1,125 feet.

Thick and extensive deposits of salt are found about 150 miles east of Edmonton. A well passed through 442 feet of salt commencing at a depth of 3,481 feet. In 1946 a borehole near



Lindbergh passed through three salt beds having an aggregate thickness of over 700 feet of salt. Three other wells in the vicinity encountered salt beds with aggregate thicknesses of from 500 to nearly 1,000 feet.

A well, just east of Edmonton, drilled through two salt beds at depths of 5,785 to 5,850 feet and 6,440 and 6,540 feet respectively. The salt has minor partings of silt and dolomite and is one of the most westerly occurrences of thick salt beds. A well at Craigmyle passed through two thin salt beds totalling 44 feet. This thinning of the salt deposits towards the south is confirmed by the presence of only one foot of salt (between 5,232 and 5,233 feet) in a well near Patricia which, presumably, marks the southern margin of the salt basin.

Upper Devonian

In the Stettler area the lower part of the Wabamum group (Upper Devonian) has been described and defined as the Stettler formation. The Stettler formation is predominantly an evaporitic sequence consisting of anhydrite, primary dolomite and salt.

The maximum concentration of evaporites occurs east of Drumheller, and decreases to the west, north, and east. Salt beds so far recorded are thin, generally ranging from 35 to 90 feet, although 100 feet of salt has been recorded in a well situated between Stettler and Big Valley.

Saline Springs

Saline springs are associated with the gypsum along the Salt River, south of the northern boundary of Alberta. The water is almost saturated with sodium chloride, and as a result fairly pure salt has been deposited around the springs. The salt has been used on a small scale to supply the needs of the northern settlements.

Saline springs with a low concentration of salt are also present at La Saline, 26 miles north of McMurray where Elk Point group strata are near the surface, and the salt is presumably derived from salt deposits within the group.

The salt industry in Alberta has been steadily growing since its inception in 1938. With the continuing expansion of the chemical industry the production of salt will probably become increasingly important.

SILICA SAND

Silica sand is used in the manufacture of glass and silicates, for sand-blasting purposes, and in the hydraulic fracturing of oil formations. Silica flour, obtained by grinding sand to a fine powder, is used in the ceramic industry and as a filler in the rubber industry. Sand is also used extensively for moulding purposes in foundry work.

The production of silica minerals in Canada in 1957 was 2,114,134 short tons valued at \$3,052,803.

A number of potential sources of silica sand have been discovered in Alberta, although none are situated ideally with respect to present transportation facilities. However, one firm is developing the Peace River sand deposit for the manufacture of glass fibre products.

Peace River

A deposit of silica sand is present in the upper 40 to 60 feet of the Peace River formation (Lower Cretaceous). It is located along the banks of the Peace River seven miles downstream from the town of Peace River. It appears to be a lens of locally unconsolidated clean, fine-to-coarse grained quartz sand. The stratigraphic equivalents elsewhere in the area are hard, fine-grained sandstones. The individual beds in the deposit are lenticular in form and are up to 10 feet thick. Size analyses and chemical analyses of samples show that SiO_2 varies from 91 to 98 per cent, and Fe_2O_3 from 0.1 to 0.2 per cent. The deposit is nearing the production stage, and future prospecting in this area may

reveal other deposits in the same stratigraphic position.

Pipestone River:

A sandstone of high silica content outcrops near the headwaters of the Pipestone River, approximately 22 miles north of Lake Louise station. The outcrop is described as being 1,000 feet thick and as showing considerable variation in degree of cementation, although the more loosely-cemented material makes up most of the deposit. It is believed to be a poorly cemented facies of the Mount Wilson quartzite. The sand contains about 98 per cent SiO_2 and 0.2 per cent Fe_2O_3 . The size distribution of the material depends upon the crushing treatment but at least 60 per cent of the particles are within the size range minus 30 to plus 100 mesh.

McMurray:

Sand obtained from oil sands in the McMurray formation consists essentially of quartz with mica. Removal of mica and a slight reduction in Fe_2O_3 and TiO_2 should produce a sand suitable for glass manufacture. There is a wide variation in grain-size distribution.

SODIUM SULPHATE

Sodium sulphate is used chiefly in the manufacture of kraft pulp for brown paper. Lesser amounts are used in the manufacture of chemicals, sheet and plate glass, and in the processing of rayon and other textiles.

Sodium sulphate is found as solid salt beds and brines in undrained or poorly drained lakes in Manitoba, Saskatchewan, Alberta, and British Columbia. The entire Canadian production of sodium sulphate is at present derived from such deposits in Saskatchewan.

These "alkali" lakes are common in east-central Alberta, and the Research Council of Alberta undertook a survey of over 250 of these lakes during the summer of 1958. Reserves have been proved by the Canada Mines Branch in 1926 at one lake only. This is Horseshoe Lake, located 7 miles southwest of Metiskow in Sections 11, 12, 13, 14, 24, Tp. 39, R. 6, W. 4th Mer. The brine at this lake is less than one foot deep, and contains about 10 per cent sodium sulphate. The crystal bed has reserves of sodium sulphate estimated at 5,000,000 tons mixed with an equal quantity of mud. Details of several other deposits are summarized in the table below. No estimates are available concerning possible reserves of sodium sulphate at these lakes.

Deposit	Location, W. 4th Mer.			Area (acres)	Depth of brine (feet)	Na_2SO_4 in brine (%)
	Sec.	Tp.	R.			
Kinsella	30	47	11	153	4 - 6	4
Kinsella	29	47	11	96	2 - 3	11
Kinsella	28, 33	47	11	200	4 - 5	5
Cairns	9, 16, 21	38	5	500	1 - 2	9
Cairns	9, 16	36	7	350	1 - 2	12

SULPHUR

Sulphur is used in the manufacture of pulp and paper, and of heavy chemicals including sulphuric acid. It is also used in rubber goods, explosives, and in petroleum and sugar refining.

There are no known deposits of elemental sulphur in Canada. Elemental sulphur is produced from "sour" natural gas in Alberta by the removal of hydrogen sulphide before the gas is marketed. Considering only fields with gas reserves greater than 10 billion cubic feet and containing not less than 2 per cent hydrogen sulphide the sulphur reserves of Alberta* total at least 20 million tons.

Approximate sulphur reserves of gas fields having reserves of more than 10 billion cubic feet of gas and over 2 per cent H_2S :

Name of field	Producing horizon	No. of analyses available	H_2S	Recoverable gas reserves	Approx. recoverable sulphur reserves
			%	B.C.F.	'000 tons
Calgary	Wabamun	2	34.7	45	640
Crossfield	Elkton	none	?	85	?
Fairydell-Bon Accord	Nisku	2	3.8	70	100
Fenn-Big Valley	Nisku	18	2.6	70	65
Homeglen-Rimbey	Leduc-gas cap			800	1130 ⁺
Homeglen-Rimbey	Leduc solution	9	4.0 ⁺	50	70 ⁺
Jumping Pound	Rundle	24	3.6	538	700 ⁻
Kathryn	Wabamun	1	12.0	30	115
Leduc-Woodbend	Nisku-gas cap		very	32.5	?
Leduc-Woodbend	Nisku solution		variable	58	?
Little Smoky River	Leduc	1	12.0	10	40
Nevis	Nisku and Leduc	6	6.8	480	1200
Okotoks	Wabamun	9	33.2	135	2100
Olds	Wabamun	4	7.2	70	190
Pincher Creek	Rundle	8	10.2	1800	7150
Redwater	Leduc	34	2.7	62.5	60
Samson Lake	Basal Quartz	1	7.5	70	180
Savanna Creek	Rundle	11	12.0 ⁺	250	1100 ⁺
Stettler	Nisku	4	3.6	11	14
Stettler	Leduc	4	3.2	4	5
Sturgeon Lake	Leduc	3	9.0	18	55
Sturgeon Lake South	Leduc	5	9.7	105	380
Sundre	Elkton-gas cap			15	25
Sundre	Elkton solution	4	4.5	30	50
Turner Valley	Rundle-gas cap			205	100
Turner Valley	Rundle solution	10	1.4	150	75
West Drumheller	Nisku-gas cap			7	5
West Drumheller	Nisku solution	11	2.0	11	8
Wimborne	Leduc	2	35.0	65	825
Windfall	Leduc	2	16.0	600	4000

Approximate recoverable sulphur reserves: over 20,000 tons

* An additional potential source is provided by the oil of McMurray oil sands which contains about 5 per cent sulphur

Despite these considerable reserves the production of sulphur is limited, for it is determined by the markets for gas and by the markets for sulphur itself. In 1957 the output in Alberta had risen to slightly more than 100,000 tons, chiefly derived from Jumping Pound, Pincher Creek and Turner Valley gas fields.

HELIUM

Helium is used as a lifting gas in airships, for helium-shielded arc welding, in production of titanium and zirconium, as a fuel expellent in rockets and guided missiles, and in medicine. Analyses of natural gas in Alberta show the helium content to be generally less than 0.5 per cent.

It is observed that helium occurs in concentrations of about 0.25 per cent in gas from the southeast corner of the province. A single analysis of a well producing from "granite wash" in northern Alberta showed 0.51 per cent helium.

Helium analyses showing more than 0.1 per cent He in Alberta natural gases:

Field	Zone	He (%)	Field	Zone	He (%)
Bindloss Valley	Bow Island	0.12	Pend. d'O	2nd Bow Island	0.25
Comrey	Bow Island	0.13	Pend. d'O	1st Bow Island	0.28
Manyberries	Bow Island	0.18	Smith Coulee	Bow Island	0.26
Manyberries	-2nd sand Bow Island	0.21	Wildmere	Colony	0.11
Medicine Hat	-"K" sand Medicine Hat	0.11	Wildmere	Stray Lower	0.10
			Wildcat	B1. sand granite wash	0.51

MAGNESIUM, BROMINE AND IODINE

The formation waters of some oilfields in Alberta carry high concentrations of soluble materials. For example waters from the Wizard Lake field contain approximately 17,000 milligrams per litre of magnesium, 1400 of bromine, 18 of iodine, 20,000 of calcium, 46,000 of sodium, 195,000 of chloride, and less than 200 each of bicarbonate and sulphate. The analyses together with information on quantity and availability of water produced, are presently being studied by the Research Council with the intention of reviewing the possibilities of commercial extraction of certain elements.

Magnesium:

Magnesium metal or one of its compounds is used in high-strength and light-weight structural alloys, in the production of titanium, as a cathodic protecting agent for iron and steel equipment (e.g. pipelines) in corroding environments, refractories in the steel and copper industries, and also in the cement, fertilizer, textile and chemical industries.

The magnesium concentration in some formation waters in wells of the Wizard Lake field reaches 17,000 milligrams per litre (5.95 pounds per barrel) or over 12 times that of sea-water. The amount theoretically recoverable depends not only upon the concentration but, of course, upon the

amount of water available. The amount of magnesium theoretically recoverable from the Redwater field may be as high as 462,000 pounds per month.

Bromine:

The primary use for bromine is as ethylene dibromide in gasoline antiknock compounds. It is also used in medicine and photography, and recently as a fumigating agent.

Canada does not produce any bromine, the bulk of the world supply being produced in the United States where it is extracted from sea water and well brines. The concentration of bromine in sea water is 60 to 70 milligrams per litre which is considerably less than the concentration in the well water in some oilfields of Alberta where it is present in concentrations of up to 1400 milligrams per litre (0.49 pounds per barrel) as in the Wizard Lake field. The theoretically recoverable amount from the Redwater field is 48,400 pounds per month.

Iodine:

Iodine has a vast range of uses in small quantities, for example in medicine, photography, foodstuffs, metallurgy, dyes, and in the chemical industry. Iodine in the United States is derived from oil-well brines which contain an average of 70 milligrams per litre.

The iodine content of well-waters for the fields considered for magnesium and bromine, ranges from 11 to 23 milligrams per litre. This is one-third to one-quarter of the concentration in the well brines of the United States and the extraction of iodine from Alberta oil-well waters would probably not be economic, except perhaps as a by-product in the extraction of other elements.

ALUM

The majority of alum salts are now prepared chemically, although a small amount of natural alum is mined in some countries.

White incrustations of aluminum sulphate are developed at surface outcrops of the lower shale member of the Smoky River formation in the vicinity of the Smoky and Little Smoky Rivers. This deposit generally has two inches of pure salt, and contains 10 to 20 per cent Al_2O_3 .

BUILDING STONE

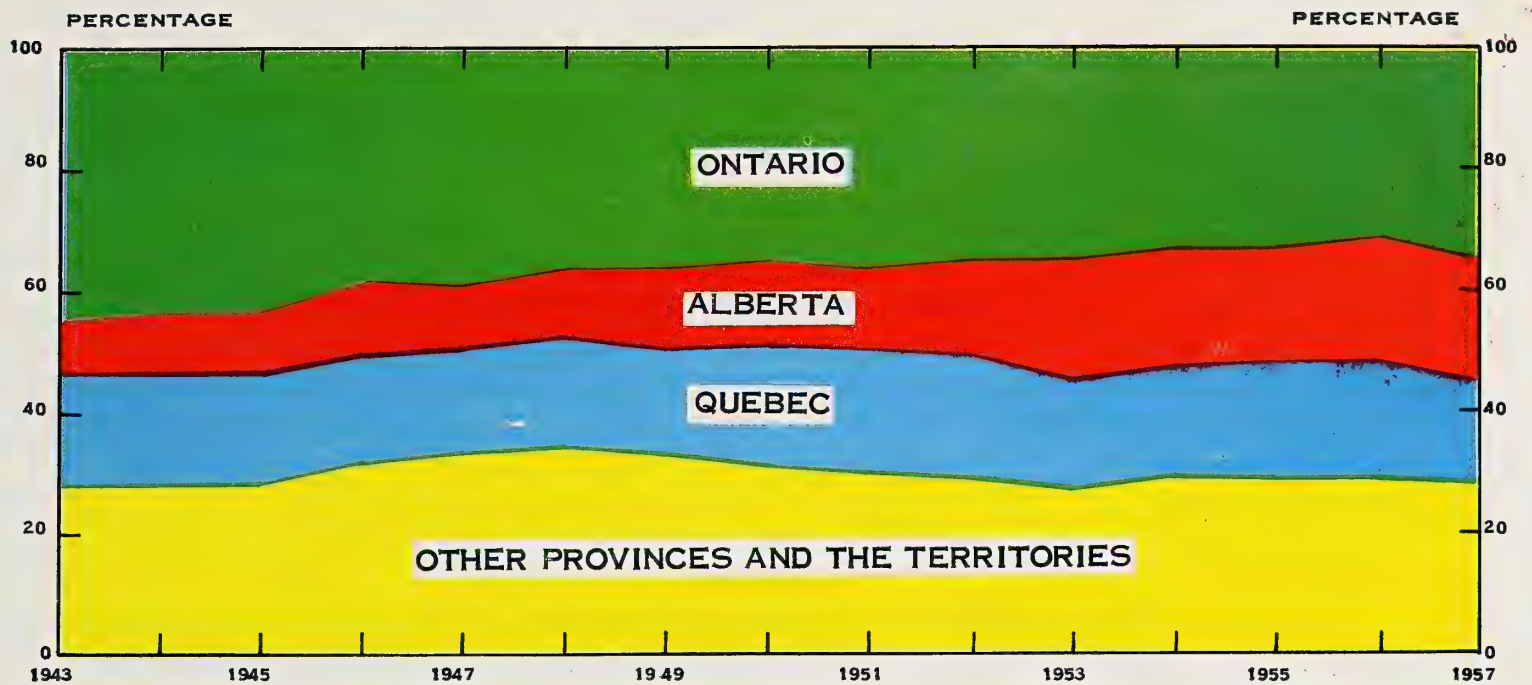
Various rock-types from numerous formations have been used in the past for building stone in Alberta, but the industry has no importance at the present time. A reconnaissance survey to assess the potentialities of various geological formations in Alberta as sources of building stone was carried out in 1916. Since this date little specific work has been done.

Many of the Cambrian, Devonian, and Carboniferous limestones in the Rocky Mountains are suitable for building stones, although severe fracturing, high and variable dips, and excessive hardness of the rocks detract from their value at some localities.

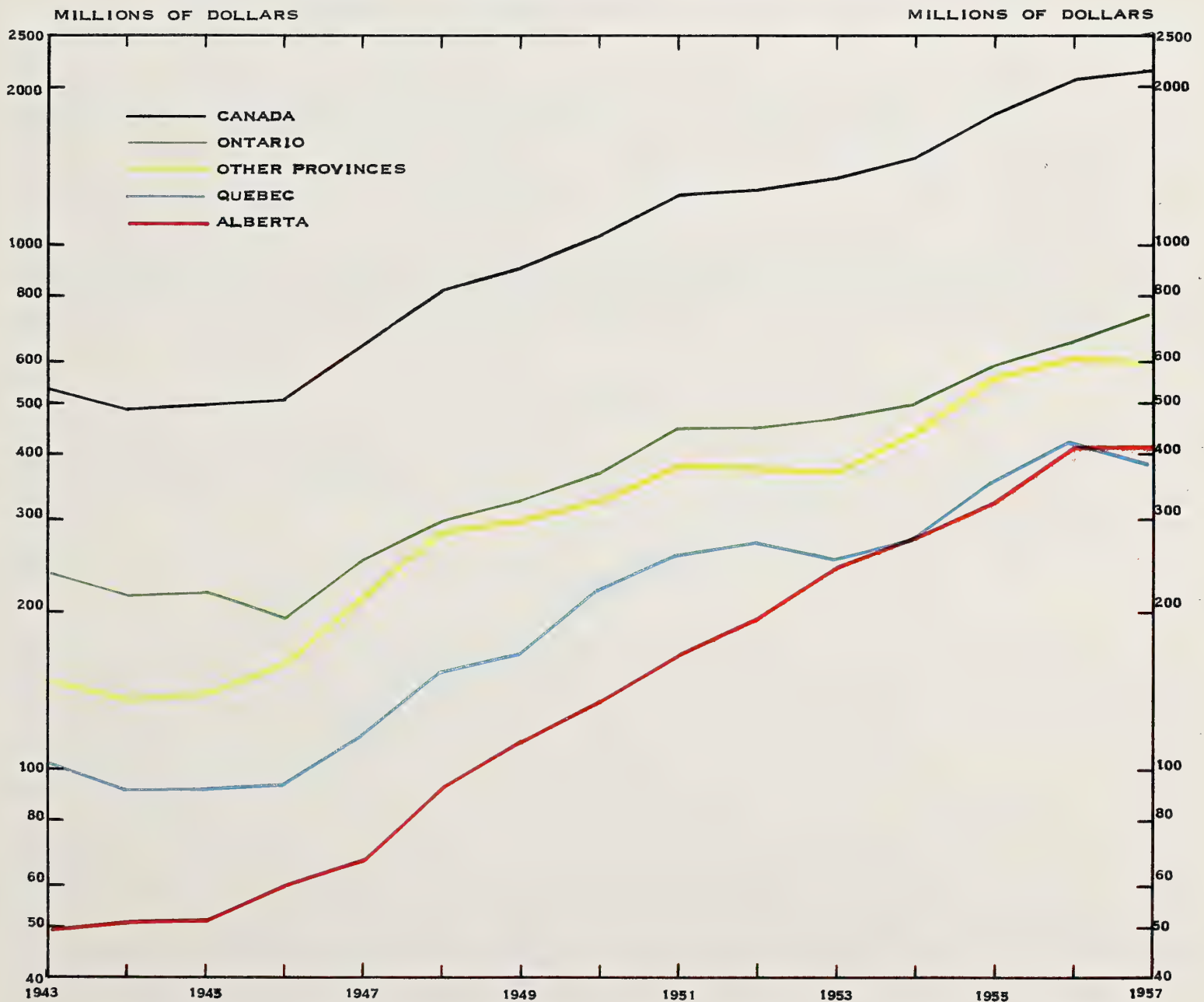
Cretaceous and Tertiary sandstones are, on the whole, unsuitable because of their unattractive color, softness and poor weathering properties. However, some sandstones have been quarried for general building purposes.

Suitable igneous rocks are rare in Alberta but Precambrian sills of the Kinsella formation (Precambrian) in the North Kootenay Pass may have some use as ornamental stones. Certain porphyries of the Crowsnest volcanic sequence (Cretaceous) near Coleman would make an attractive ornamental stone.

Tufa deposits have been recorded at various localities in Alberta, as at Big Hill Creek and Radnor. Though both these deposits have been considered too soft and porous for use, small amounts have been used for decorative purposes. For example Big Hill tufa was used in the Government



PERCENTAGE DISTRIBUTION, VALUE OF MINERAL PRODUCTION
ONTARIO, ALBERTA, QUEBEC, AND OTHER PROVINCES, 1943-1957



VALUE OF MINERAL PRODUCTION, CANADA, ONTARIO, ALBERTA, QUEBEC
AND OTHER PROVINCES, 1943-1957

Administration Building at Edmonton, and the Radnor tufa in the Civic Utilities Building at Calgary.

GRAPHITE

No natural graphite has been produced in Canada since 1954, when a total of 2,463 short tons was mined in Ontario.

No commercial deposits of graphite have been found in Alberta, the only known occurrence is in Tonquin Valley, Jasper National Park. The graphitic bed is in Precambrian strata, the outcrop occurring at an elevation of 7,000 feet. The Precambrian rocks here consist of slates, phyllites, schists, quartzites, and pebble conglomerates. The slates are carbonaceous and intensely metamorphosed, graphite being developed where the carbon content is highest. The graphite zone is 20 feet thick, but the carbon content is very low.

MARL

Data concerning marl deposits in Alberta are scanty, although samples submitted to the Research Council for identification suggest that marl deposits may be widespread in the province.

Hand Hills:

A large deposit of marl underlies the conglomerate capping the Hand Hills.

Big Lake:

It is understood that preliminary development work is being undertaken by private interests on a marl deposit near Big Lake, north of Stony Plain and northwest of Edmonton. No information is available on the extent or purity of the deposit.

Marlboro:

A deposit near Marlboro, west of Edson, has been used in the past for the manufacture of cement. This deposit has recently been examined. The marl remaining in the deposit is of small extent and thickness and it appears that a few shallow boreholes would establish the extent of the deposit more definitely.

OCHRE

Ochre deposits occur at many springs in Alberta, and although the quality is high, the quantity is small. The only deposit which has been described occurs near Pagan, where high quality ochre covers about one acre to a depth of eight inches.

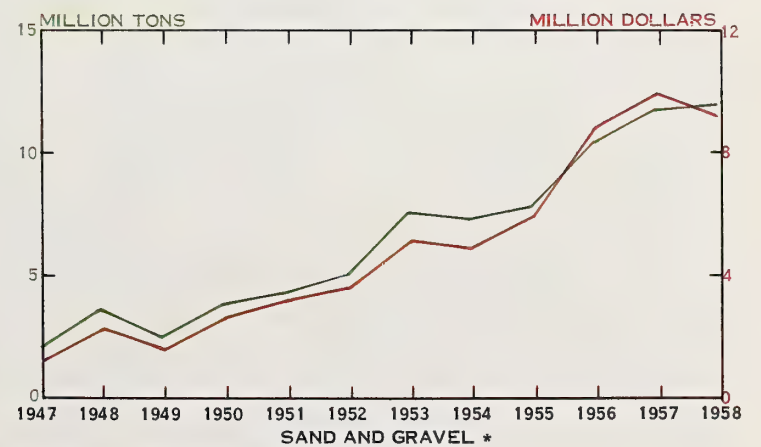
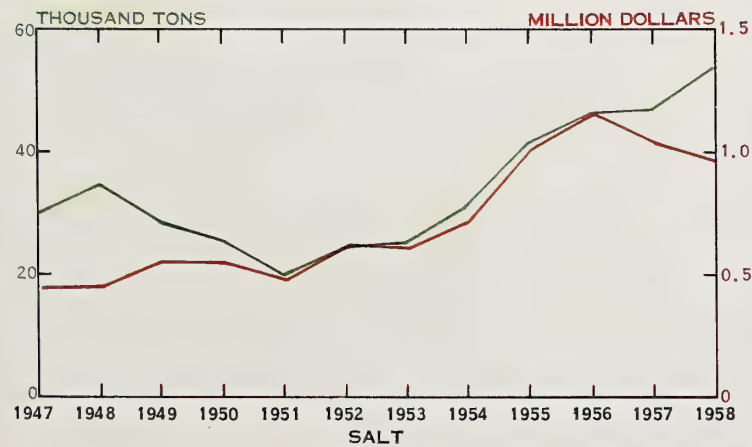
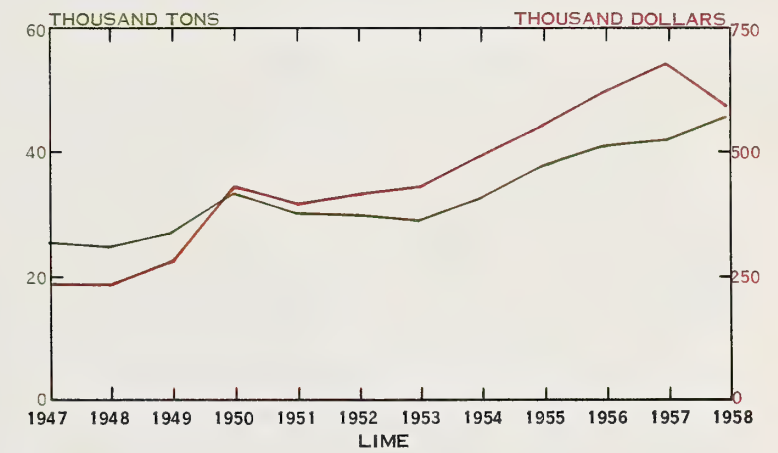
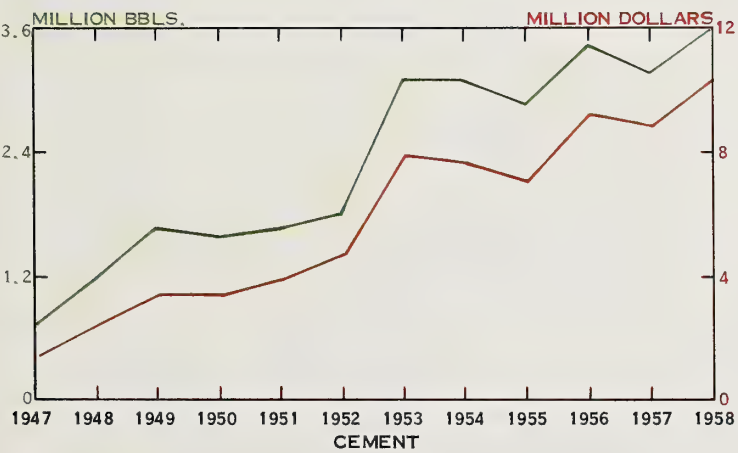
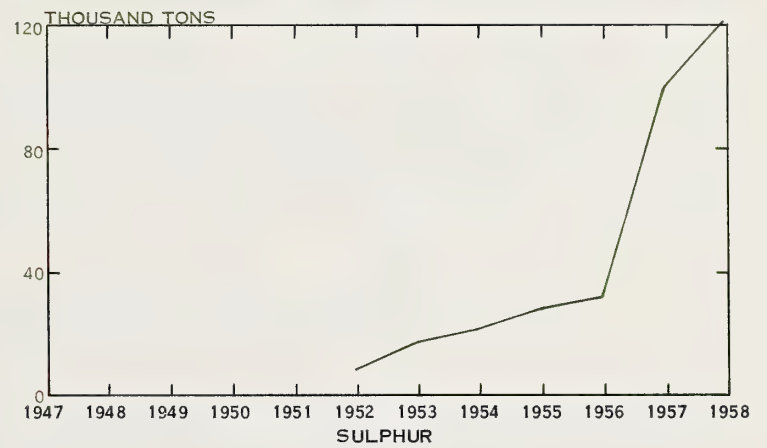
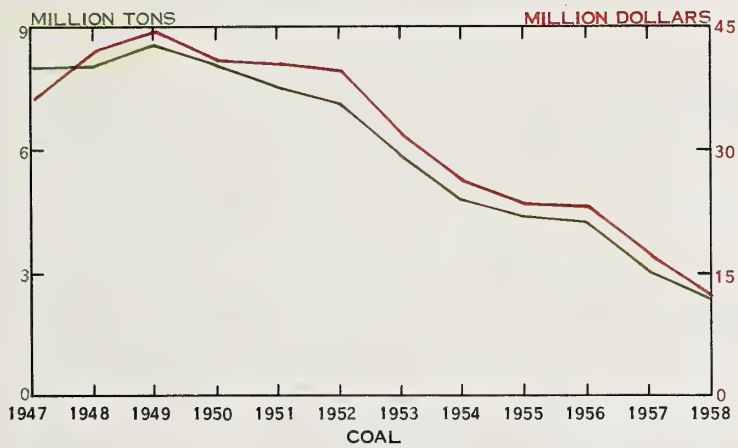
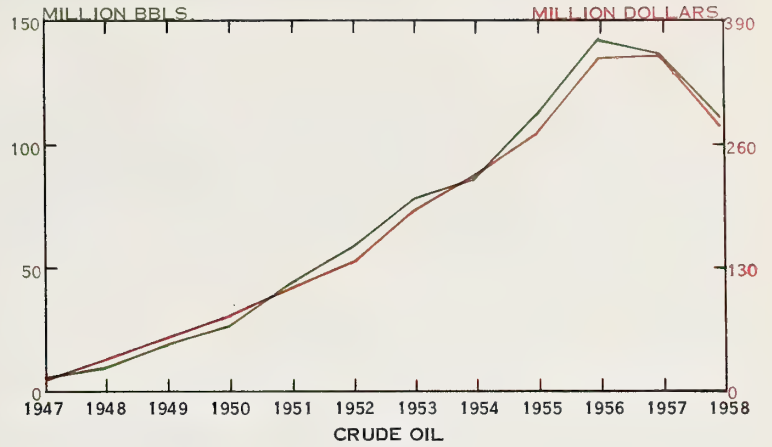
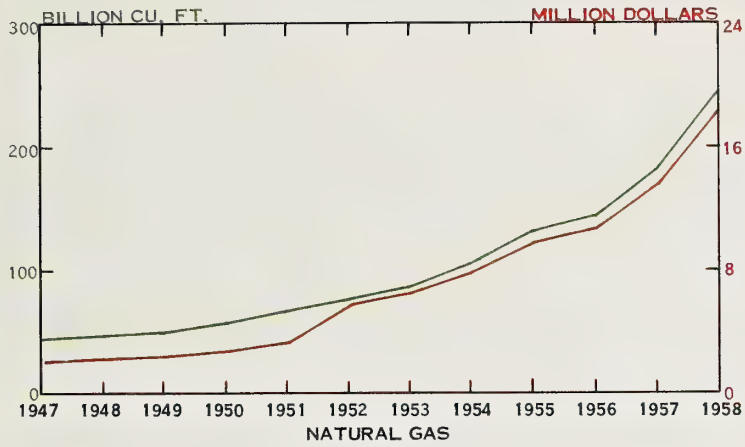
PEBBLES

Quartzite pebbles derived from the Cypress Hills conglomerate and washed into stream beds along the northern flank of the Cypress Hills are used for ball-mills in British Columbia. Tests of the Cypress Hills pebbles show them to be comparable in quality to commercially used Danish pebbles.

POTASH

The salt deposits of Saskatchewan, equivalent to the upper salt in Alberta, contain 6.4 billion tons reserves of potash. This figure includes only deposits containing 25 per cent or more potash. Although no systematic search has yet been made for potash in Alberta, investigation in Saskatchewan along the Alberta boundary have shown only traces of potash. The few analyses available suggest that commercial quantities of potash are unlikely to be found in Alberta, the highest concentration encountered so far being 3 to 4 per cent potash in the vicinity of Neutral Hills. However, it would be unwise to discount entirely the possibility of economic potash deposits in Alberta before examining drill-cores from wells which have penetrated the salt deposits.

MINERAL PRODUCTION AND VALUE, ALBERTA, 1947-1958



*SAND AND GRAVEL ARE NOT LEGALLY MINERALS IN ALBERTA

PUMICITE

Pumicite is mainly used as a concrete aggregate and as an abrasive. It is used in minor amounts in acoustic and insulation products and as an absorbent. Although deposits of pumicite are widespread in Saskatchewan, Alberta, and British Columbia, there has been no recent production due to the thinness of beds and lack of nearby markets.

Data concerning purity and composition are not available. Pumicite is a rather drab looking material that could easily be overlooked in the reconnaissance geological mapping, so it is reasonable to suppose that a number of occurrences have not yet been discovered.

Irvine:

A thick bed of bentonite and pumicite occurring 100 feet above the base of the Bearpaw formation in southeastern Alberta was described briefly in the section on bentonite. In the northern and eastern outcrops of the Bearpaw formation surrounding the Cypress Hills, the greater part of this bed appears to consist of pumicite varying from pure material to fairly bentonitic. The pumicite shows rapid lateral changes in purity, and sometimes grades laterally into bentonite.

The pumicite-bentonite bed outcrops extensively one mile south of the town of Irvine. Numerous other exposures are present in the general area where the lower Bearpaw formation outcrops in southeastern Alberta, although south of the Cypress Hills the bed is thinner and consists entirely of bentonite.

Marten Mountain:

Pumicite is poorly exposed at the west end of Marten Mountain at the east end of Lesser Slave Lake.

Calgary:

A bed of pumicite from a fraction of an inch to 10 inches thick is exposed in alluvial deposits a short distance immediately above the bedrock just downstream from the Glenmore Dam in Calgary. The deposit is of some academic interest, since it indicates that volcanoes were active in Western Canada a relatively short time ago.

Willow Creek:

A small tonnage of pumicite has been mined from a deposit of cream-coloured to black pumicite. The pumicite occurs under about 2 feet of overburden and is 10 to 15 inches in thickness. Eighty per cent of the pumicite is finer than 200-mesh.

Asplund:

A sample of indurated pumicite, partially altered to bentonite and 1.5 feet thick has been noted.

TALC

The national production of talc in 1957 was 33,053 short tons, derived from Quebec and Ontario. This was used chiefly in the rubber and paint industries.

Talc deposits have been noted on both sides of the Alberta-British Columbia boundary in the vicinity of Redearth Pass (Spence, 1940). In Alberta, the talc occurs as beds within grey dolomite of the Cathedral formation (Lower Cambrian), as irregular stringers one to five feet thick, and also within the formation as small "pods" up to two feet thick. The talc is white in color and appears to be of good quality.

IRON DEPOSITS

Large, low to medium grade iron deposits occur in Mesozoic sandstones in Alberta. The

majority are close to rail transportation. These deposits might form the basis of an Alberta iron and steel industry.

The arenaceous deposits occur in the foothills of southwest Alberta and in the hills on both sides of the Peace River. Large bands of rusty ferro-dolomitic shales exist along the front ranges of the Rocky Mountains.

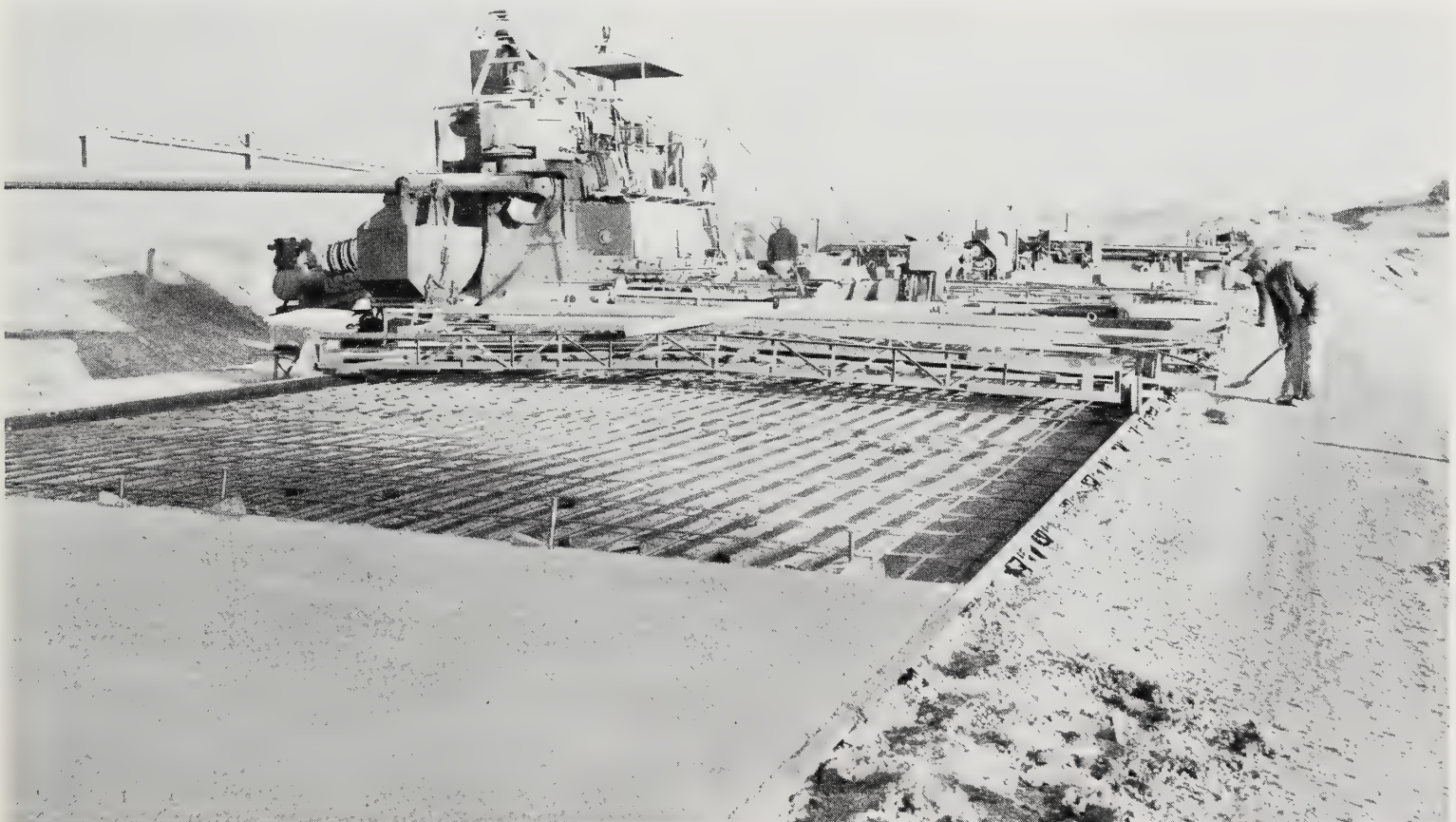
Since the close of the last century lenses of titaniferous magnetite sandstone several hundred feet long and assaying 30 to 40 per cent metallic iron have been prospected in the Pincher Creek and Crowsnest Pass areas. Recently these deposits have been subjected to more intensive investigation and about 50 million tons of medium grade magnetite has been outlined. More lenses of this material are known in the same sandstone belt for a distance of 100 miles from Montana to Willow Creek. The deposits contain up to 8 per cent titanium but recent improvements in metallurgical processes suggest that the iron can be removed economically.

In the Fiddle Creek area, east of Jasper National Park, several claims were staked for iron as long ago as 1910 on rusty dolomitic shales. Similar rusty bands are visible in the front ranges south towards the Oldman Gap.

Red-weathering sandstone up to 10 feet thick in the Spirit River area may be considered as potential iron ore. In two areas of the Clear Hills, north of the Peace River, recent exploration for petroleum has disclosed several siliceous goethite deposits, carrying minor siderite. Each of these two areas contains one-half billion to one billion tons of ferruginous sandstones averaging between 30 and 35 per cent metallic iron.

URANIUM, ARSENOPYRITE AND MOLYBDENITE

The western margin of the Canadian Precambrian Shield cuts the extreme northeast corner of Alberta. Field parties of the Research Council of Alberta have carried out systematic geological mapping in the area north of Lake Athabasca during 1957 and 1958. In the course of this mapping, mineral showings of principally uranium, arsenopyrite, and molybdenite were found.



ALBERTA GOVERNMENT PHOTOGRAPH

Monster concrete laying machines were used to pave the Trans-Canada highway from Calgary to Banff.

TABLE 22. PROVINCIAL GOVERNMENT REVENUE FROM MINERAL RESOURCES

- ALBERTA -

BY FISCAL YEARS, 1947-48 TO 1956-57

	1947-48 \$	1948-49 \$	1949-50 \$	1950-51 \$	1951-52 \$
COAL					
FEES AND RENTALS	121,936	177,788	191,726	181,001	215,344
ROYALTIES	288,215	646,540	651,568	623,312	437,411
SUNDRY REVENUE	5,798	7,398	6,183	5,335	5,209
PETROLEUM AND NATURAL GAS					
FEES AND RENTALS	759,702	2,353,064	6,255,178	9,779,641	15,380,550
ROYALTIES	875,239	1,753,573	3,611,118	5,189,993	11,038,089
CROWN RESERVE SALES		8,911,803	23,231,448	29,080,632	13,211,289
SALT					
FEES AND RENTALS	6,721	7,002	564	3,129	1,006
ROYALTIES	5,980	4,886	2,025	9,231	4,895
QUARRYING					
FEES AND RENTALS	1,010	1,155	1,019	1,177	291
ROYALTIES	5,546	15,917	29,939	36,486	27,908
QUARTZ					
FEES AND ROYALTIES	88	215	378	630	854
PLACER					
FEES AND ROYALTIES	150	23		325	43
BITUMINOUS SANDS					
FEES, RENTALS AND ROYALTIES			15,195	7,738	7,738
MINING MISCELLANEOUS					
FEES, RENTALS AND ROYALTIES	14,286	22,787	218,265	130,682	303,468
MINERAL TAX					
NON-PRODUCING AREA TAX	294,040	275,774	297,883	307,063	323,186
PRODUCING AREA TAX	179,694	290,170	452,838	526,030	444,294
CERTIFICATE FEES	101	125	287	511	2,320
ADMINISTRATION SUNDRY REVENUE	*	*	21,916	34,734	61,946
TOTAL	2,558,506	14,468,220	34,987,530	45,917,650	41,465,841
	1952-53 \$	1953-54 \$	1954-55 \$	1955-56 \$	1956-57 \$
COAL					
FEES AND RENTALS	176,175	148,753	52,033	51,930	68,287
ROYALTIES	379,492	286,569	230,907	216,840	165,135
SUNDRY REVENUE	4,526	3,902	3,068	2,816	2,793
PETROLEUM AND NATURAL GAS					
FEES AND RENTALS	19,682,345	24,597,994	20,654,727	21,370,260	25,819,815
ROYALTIES	13,510,952	18,565,126	20,214,579	28,794,874	37,292,514
CROWN RESERVE SALES	23,527,444	53,236,117	40,013,320	76,074,733	69,050,850
SALT					
FEES AND RENTALS	1,006	1,006	1,006	1,006	1,011
ROYALTIES	6,807	7,063	7,978	9,869	10,051
QUARRYING					
FEES AND RENTALS	227	325	186	73	213
ROYALTIES	29,310	38,798	41,181	39,552	53,591
QUARTZ					
FEES AND ROYALTIES	3,826	15,751	3,283	1,545	1,180
PLACER					
FEES AND ROYALTIES	30	30	1,510	1,119	1,346
BITUMINOUS SANDS					
FEES, RENTALS AND ROYALTIES	53,373	63,927	43,167	199,181	91,437
MINING MISCELLANEOUS					
FEES, RENTALS AND ROYALTIES	224,680	191,976	105,630	186,317	107,962
MINERAL TAX					
NON-PRODUCING AREA TAX	310,285	283,853	277,843	264,497	272,884
PRODUCING AREA TAX	572,671	717,353	1,031,923	1,031,802	1,070,381
CERTIFICATE FEES	3,204	1,056	1,467	914	1,102
ADMINISTRATION SUNDRY REVENUE	83,735	90,414	69,269	51,489	75,903
TOTAL	58,570,088	98,250,013	82,753,077	128,299,316	134,086,464

* APRIL 1949 WHEN REVENUE FROM MINERALS WAS ADMINISTERED BY THE DEPARTMENT OF LANDS AND MINES.



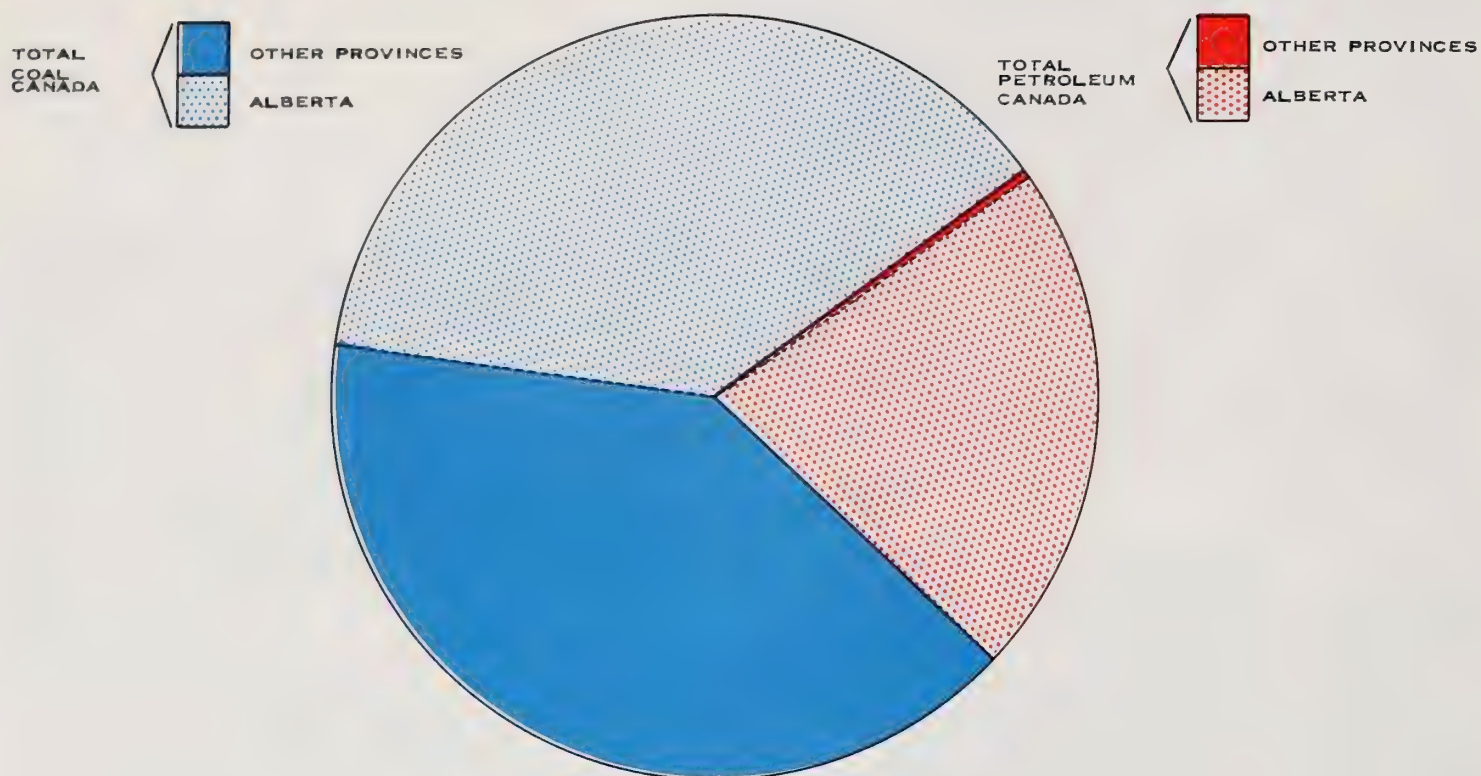
ALBERTA GOVERNMENT PHOTOGRAPH

Fibreglass pleasure craft made in Cardston have found a ready market.

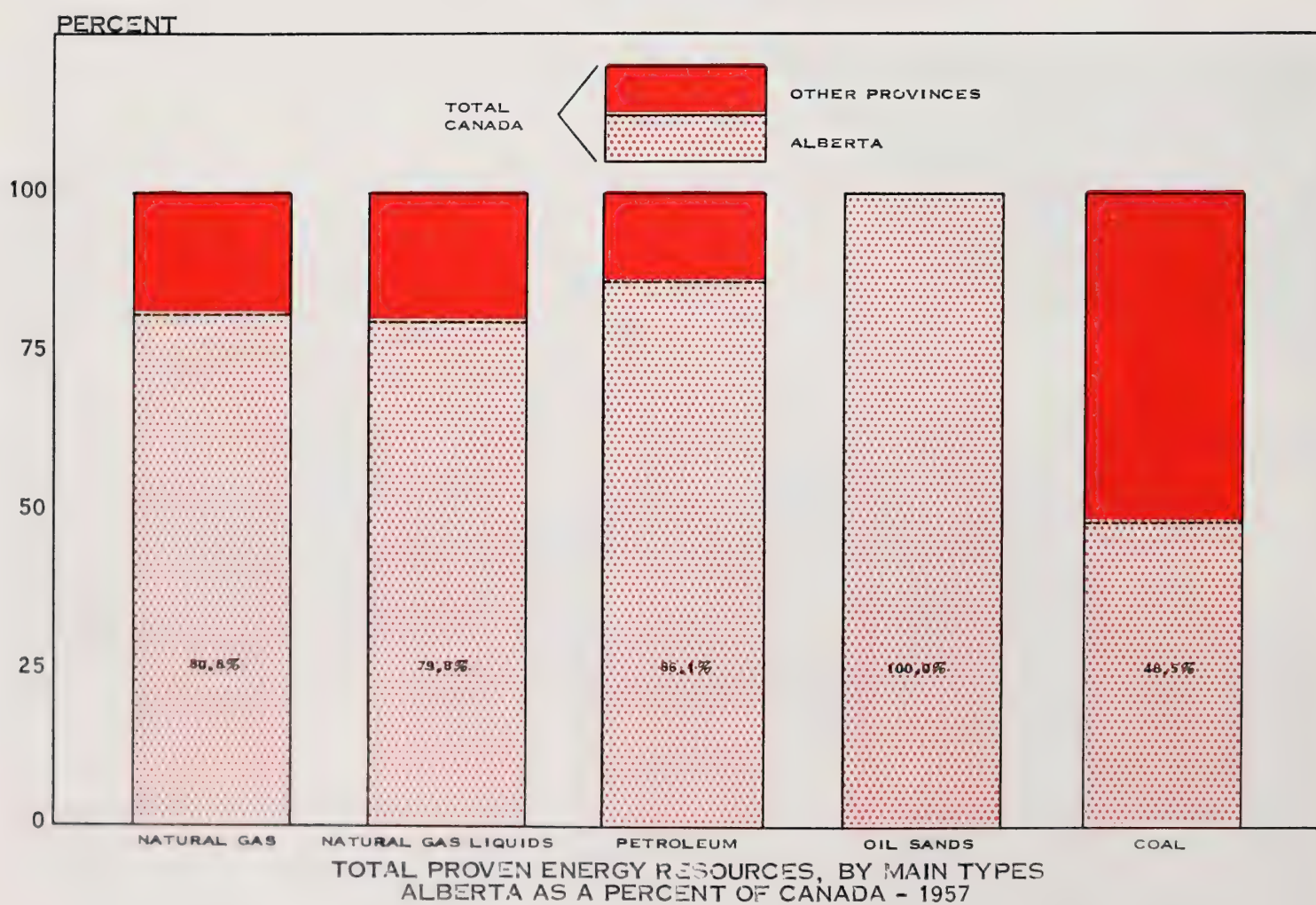


ALBERTA GOVERNMENT PHOTOGRAPH

One of western Canada's major cement producers is Inland Cement, Edmonton.



TOTAL PROPORTIONATE ENERGY RESOURCES, PETROLEUM AND COAL
(EXPRESSED IN B.T.U. EQUIVALENTS) ALBERTA AND CANADA - 1957



ENERGY RESOURCES

Alberta possesses immense energy resources particularly in fossil fuels and it is in this province that Canada's fuels are concentrated. These fuels include coal, petroleum, natural gas, natural gas liquids and the Athabasca Oil Sands, and their quantities together with Canadian totals and the provincial to national ratios are shown below:

Total Available Energy Resources
(Expressed in trillions of Btu's)
December 31, 1957

	Alberta	Canada	Percent Alberta
	<hr/>	<hr/>	
Natural Gas	21,000	26,000	81.0%
Natural Gas Liquids	1,940	2,430	79.5%
Petroleum	18,000	20,900	86.3%
Oil Sands	626,000	626,000	100.0%
Coal	1,158,190	2,390,000	48.5%

The giant among these energy resources is coal and it strongly dominates the fuel field. Alberta's share of this primary resource is estimated at 48 billion tons of mineable coal or approximately 48 per cent of Canada's total coal reserve. The coals of Alberta range in rank from lignite to semi-anthracite and are suitable for the generation of electrical energy, for space and process heating, for railway locomotives and also for the production of synthetic liquid and gaseous fuels and chemicals.

While the reserves of liquid and gaseous petroleum fuels are overshadowed by those of coal, they are none the less of great magnitude and here Alberta possesses the major share of the entire Canadian reserves. The highly convenient form of these fuels and their intensely vital role in today's industrial era places Alberta in a uniquely fortunate position in the competition for industrial expansion. The increasingly large supplies of western Canada crude oil have enabled Canada to improve its oil self-sufficiency position during the past 10 years from less than 10 per cent to over 65 per cent in spite of a three-fold increase in domestic demand for petroleum fuels. The rise in importance of petroleum and natural gas as energy sources is evident.

In addition to present resources of crude petroleum, Alberta has the world's largest known potential reserve of oil in the Athabasca Oil Sands. There have been many estimates as to the amount of crude oil contained in these deposits. A conservative estimate would indicate a minimum of 100 billion barrels. This estimate is, however, meaningless until a commercially feasible method has been discovered to separate the crude oil from the impregnated sand.

And to supplement this storehouse of energy from fossil fuels is a potential hydro-power development, estimated at 2.85 million K.W. or over six per cent of Canada's total. This represents .6 million K.W. generating capacity on fully surveyed and proven sites on the Bow and North Saskatchewan Rivers; and a further estimated 2.25 million K.W. from partially investigated sites on the North Saskatchewan, Athabasca, Peace and Slave Rivers.

The relative magnitude of the reserves of natural gas and petroleum in Alberta as well as their relationship to the total Canadian picture is shown on the following graphs.

COAL

Sub-bituminous coals underlie much of the province's Central Plains, while an abundance of bituminous coal (including coking coal) occurs in the Rocky Mountains and the foothills country to the west. While there are considerable reserves of most coal types in Alberta, no true anthracite occurs.

Latest available estimates place Alberta's total mineable reserves of coal at about 47.8 billion tons, or roughly, at 48 per cent of Canada's total. The ultimate reserves are likely to be substantially greater than this. The term "mineable coal" is defined to mean either bituminous coal occurring in seams three feet or more in thickness and covered by an overburden of less than 2,500 feet, or sub-bituminous coal occurring in seams three feet or more in thickness and covered by less than 1,000 feet of overburden. Further geological prospecting and the development of mining methods capable of economically extracting coal at greater depth are therefore likely to lead to a considerable upward revision of the province's coal resources. Even now, seismic surveys exploring for oil and natural gas are constantly revealing large coal seams in areas previously believed to be barren of coal and adding to the known reserves in regions prospected in the past.

Geologically, Alberta coal is young: coal seams are generally confined to the Cretaceous formations, and, in a few areas, to the Jurassic-Cretaceous and the Cretaceous-Tertiary contacts. The oldest coal occurs in the Kootenay formation which lies at the bottom of the Cretaceous but may be Jurassic in age. Coal in the Blairmore formation is slightly younger being Lower Cretaceous in age. Coal in these strata belongs to the most mature found in the province and outcrops within the front ranges of the Rocky Mountains; it is presently being mined at several places in the Crowsnest Pass as well as Canmore, Mountain Park, Cadomin and Luscar and it is also being developed in the Highwood and Sheep Creek valleys. The two younger coal horizons, designated as the Belly River and Edmonton formations, are of Upper Cretaceous age and underlie (or outcrop in) the foothills and plains. *The dip of the seams in these horizons varies from zero to a maximum of 5 degrees in the plains, but may occasionally be as high as 20 degrees in the foothills. In the mountains proper, dips as great as 90 degrees are known in some areas.

Coal rank, being as much determined by tectonic conditions as by geological age, decreases steadily as the distance from the Rocky Mountains increases towards the east. For example, Belly River coal at Wainwright is considerably less mature than coal in the same formation in the foothills area. As a rule, lines connecting coals of equal rank run roughly parallel to the Eastern edge of the Rocky Mountains.

Reserves of coal in Alberta as compared with reserves in other Canadian provinces, and the quantities of coal of different types in the various coal areas of Alberta, are summarized in accompanying tables. The term "probable reserves" is here taken to mean coal that can reasonably be expected to exist, while "possible reserves" relates to coal the existence of which is based on limited geological data, and the recovery of which is problematical because of inferior quality and/or relative inaccessibility. "Recoverable reserves" have, somewhat arbitrarily, been placed at 50 per cent of the mineable reserves. Designation of the coals is based upon a group classification that has been developed by the Research Council of Alberta and that has proved suitable for coal investigations as well as for regulating coal sales. This classification is given on the Table opposite.

Coal mining in the province uses both underground and strip-mining methods, and most of the mines are highly mechanized and equipped with well-designed tipples and preparations plants. Despite its efficiency, however, the industry has greatly contracted during the past few years, and output has fallen from a high of about 8.5 million tons per year in the period 1946-49 to about 3 million tons in 1957. This contraction has been the direct result of the discovery of very large oil

* Some of the foothills operations may also involve Tertiary coal. Saunderson and Mercoal may be cases in point.

GROUP CLASSIFICATION FOR ALBERTA COALS

- | | |
|-------|------------|
| Group | Coal type: |
|-------|------------|
- 1 Low volatile, non-coking bituminous coals from mountain areas:
 - (1) Important areas - Cascade, Nordegg. If the Highwood area is developed, it will be included in this group.
 - (2) Characteristics - A good storage, weather-resistant coal. Burns with a short, slightly smoky flame. Used for domestic heating, railway fuel and for steam raising in general. Briquettes produced from the coal are used for domestic heating and as a locomotive fuel.
 - (3) Output - Total for group 203,993 tons in 1957; one coal cleaning and one briquetting plant is now operated.
 - (4) Range of typical analyses - Moisture 1-2%, ash 8-10%, volatile matter 10-16%, fixed carbon 73-80%, heat value 14,000 to 14,200 b.t.u. per pound.

 - 2 Medium and high volatile coking bituminous coals from mountain areas:
 - (1) Important areas - Crowsnest, Mountain Park.
 - (2) Characteristics - A good storage, weather-resistant coal. Burns with a medium to long smoky flame. Used for domestic heating, for locomotive fuel and for steam raising in general. Also used for making coke, a smithy coal and in the cement industry.
 - (3) Output - Total for group 641,930 tons in 1957; two briquetting and four cleaning plants are operated.
 - (4) Range of typical analyses - Moisture 1-4%, ash 8-15%, volatile matter 20-36%, fixed carbon 46-65%, heat value 12,000 to 13,500 b.t.u. per pound.

 - 3 Sub-bituminous coals, principally from the foothills areas:
 - (1) Important areas - Coalspur, Lethbridge, Prairie Creek, Saunders.
 - (2) Characteristics - A good storage, weather-resistant coal. It is a reactive non-coking coal that burns with a long, slightly smoky flame. Used for domestic heating and for steam raising purposes. It is a strong coal and can be shipped and stored well.
 - (3) Output - Total for group 419,921 tons in 1957. Three coal cleaning plants are operated.
 - (4) Range of typical analyses - Moisture 7-12%, ash 7-13%, volatile matter 32-35%, fixed carbon 41-50%, heat value 10,400 to 11,900 b.t.u. per pound.

 - 4 Domestic coals -- fair storage coal from prairie areas:
 - (1) Important areas - Brooks, Big Valley, Carbon, Drumheller, Edmonton, Pembina, Taber.
 - (2) Characteristics - Can be stored under cover. It is a reactive non-coking coal that ignites easily and burns with a long smokeless flame. Used for domestic heating and also for steam raising in boilers with liberal furnace and grate dimensions. Usually shipped in box cars.
 - (3) Output - Total for group 1,172,561 tons in 1957. One coal cleaning plant in operation.
 - (4) Range of typical analyses - Moisture 16-25%, ash 6-12%, volatile matter 26-32%, fixed carbon 38-45%, heat value 8,500 to 10,000 b.t.u. per pound.

 - 5 Domestic coals -- fair storage under cover, from prairie areas:
 - (1) Important areas - Camrose, Castor, Sheerness, Tofield.
 - (2) Characteristics - Does not store as well as previous groups. It is a reactive, non-coking coal that ignites easily and burns with a long smokeless flame. Used for domestic heating and for steam raising in boilers with liberal furnace and grate dimensions. It is shipped in box cars.
 - (3) Output - Total for group 716,949 tons in 1957.
 - (4) Range of typical analyses - Moisture 24-30%, ash 5-9%, volatile matter 27-30%, fixed carbon 35-40%, heat value 7,700 to 9,000 b.t.u. per pound.

GROUP CLASSIFICATION FOR CANADIAN COALS

- | | |
|-------|------------|
| Group | Coal type: |
|-------|------------|
- 1 Low volatile bituminous, and some semi-anthracite.
 - 2 Medium volatile and high volatile A and B bituminous.
 - 3 Non-coking, high volatile C bituminous.
 - 4 Sub-bituminous A, B, and C.
 - 5 Sub-bituminous B and C.

and natural gas pools in Alberta, and of the consequent loss of several major coal markets to these competitors. For example, dieselization of railways has caused almost complete loss of railway tonnage (which, at its peak, amounted to 3 million tons per year), and the availability of cheap natural gas and fuel oil has also made heavy inroads into space heating and power generation markets originally held by coal. A considerable number of mines have therefore been forced to suspend operations.

To some extent, recent trends are likely to continue. The completion of gas and oil pipelines to the Pacific coast and to the Eastern Canada markets will undoubtedly further reduce the demand for coal (especially in the domestic heating field). Unless freight rates, which currently militate against Alberta coal, are made much more favourable, it is improbable that it will be able to retain (much less expand) markets potentially available to it in the industrial heating field. These restrictions, however, may only affect underground coal mines in the province. Increasing attention is being given to the thermal power stations burning cheap strip-mined coal, and in the light of the satisfactory performance of the recently-completed Forestburg power station, it is highly probable that strip-mine coal will capture progressively larger shares of the electricity-generation markets. It is already a highly competitive fuel.

Underground mines producing sub-bituminous or high-volatile bituminous coal may conceivably share the developing power-generation market with strip coal if operating costs can be reduced by mechanical mining and if the unsized coal equals the cost of strip coal on a BTU basis. Pending such developments, their major hope would appear to lie in expanding space heating outlets for which highly automatic coal-fired boilers are now available, and which may convert from gas (or oil) to coal as gas export gets under way and gas prices, following the traditional pattern in the United States, rise beyond present (often unrealistically low) levels.

The number of people employed by coal mines in Alberta has, like coal production, shown a drastic fall. From a high of almost 9,000 in 1948, it has decreased to 4,700 in 1954 and to 2,800 in 1957. The number of mines operating in the province has similarly fallen from over 200 to 136 in 1954 and 93 in 1957. Considerable, and generally successful, efforts have been made by the provincial government to re-direct redundant labour from closed coal mines into other productive occupations.



ALBERTA GOVERNMENT PHOTOGRAPH

Superior Masonry storage yard and plant at Lethbridge.

TABLE 23. PRODUCTION AND DISPOSITION OF COAL — ALBERTA, 1947 AND 1955-1957

		1947	1955	1956	1957
TOTAL TONNAGE	TONS	8,074,596	4,456,578	4,329,639	3,155,354
TOTAL VALUATION	\$.	36,317,343	23,486,399	23,283,966	17,287,229
NO. OF MINES IN OPERATION	NO.	191	116	104	93
AVERAGE NO. OF MEN EMPLOYED .	NO.	8,761	3,801	3,443	2,795
DISPOSITION OF COAL					
RAILWAYS	TONS	2,504,604	431,639	385,388	152,693
ALBERTA	TONS	1,671,130	1,080,379	1,020,538	876,395
SASKATCHEWAN	TONS	1,475,006	893,377	871,719	680,297
BRITISH COLUMBIA	TONS	899,403	932,764	860,329	672,527
MANITOBA	TONS	583,414	293,719	304,918	247,480
ONTARIO	TONS	162,898	90,727	75,029	68,379
QUEBEC	TONS	-	-	120	165
ALASKA	TONS	-	-	-	-
CHINA	TONS	27,731	-	-	-
UNITED STATES	TONS	91,235	32,941	45,692	85,687
JAPAN	TONS	14,461	-	-	1,137
SHIPS' BUNKERS	TONS	4,107	-	-	-
TOTAL SALES	TONS	7,433,989	3,755,546	3,563,733	2,784,760
COLLIERY BOILERS	TONS	173,575	73,235	62,785	47,075
COLLIERY RAILROADS	TONS	1,928	1,186	1,302	1,016
USED MAKING BRIQUETTES	TONS	266,178	415,311	500,195	255,131
USED MAKING FABRICOAL	TONS	-	-	-	-
USED MAKING COKE	TONS	81,128	-	-	-
PUT TO STOCK	TONS	48,620	1,232,019	1,234,323	269,730
PUT TO WASTE	TONS	132,776	174,226	234,855	79,142
LIFTED FROM STOCK	TONS	39,915	1,192,524	1,258,317	280,630
LIFTED FROM WASTE	TONS	23,683	2,421	9,237	870
TOTAL OUTPUT	TONS	8,074,596	4,456,578	4,329,639	3,155,354
COAL BY-PRODUCTS					
TOTAL TONNAGE BRIQUETTES PRODUCED	TONS	282,898	435,785	525,202	265,645
TOTAL TONNAGE COKE PRO- DUCED	TONS	52,627	-	-	-

TABLE 24. CRUDE OIL FIELDS PRODUCTION, 1946-1958 AND RECOVERABLE RESERVES

AT DECEMBER 31, 1958

(MILLIONS - OF - BARRELS)

	1914-46	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	TOTAL	RECOVER- ABLE RESERVES
BONNIE GLEN	-	-	-	-	-	-	.7	5.5	7.0	7.8	10.3	8.2	4.2	43.7	288
FENN BIG VALLEY.....	-	-	-	-	-	.2	1.1	3.2	6.5	7.5	8.0	7.8	5.6	39.9	138
GOLDEN SPIKE	-	-	-	.1	.3	.6	1.3	2.2	2.5	3.4	3.9	2.5	.9	17.7	130
LEDUC-WOODBEND....	-	.4	4.6	9.7	10.6	13.7	17.8	21.4	20.6	20.4	21.1	18.3	14.9	173.5	92
PEMBINA	-	-	-	-	-	-	-	-	.9	14.8	33.7	37.2	33.1	119.7	500
REDWATER	-	-	-	4.8	10.7	23.2	24.0	23.3	24.9	28.5	28.2	21.2	13.1	201.9	579
STURGEON LAKE SOUTH	-	-	-	-	-	-	-	-	.1	.7	2.0	2.6	2.9	8.3	106
SWAN HILLS AREA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100
WIZARD LAKE.....	-	-	-	-	-	.2	1.7	3.1	3.7	3.7	4.8	4.4	1.6	23.2	187
OTHER FIELDS AND AREAS	84.5	6.0	5.9	5.2	5.5	8.0	12.3	18.1	21.4	26.2	31.9	35.3	37.0	297.3	369
PRODUCTION.....	84.5	6.4	10.5	19.8	27.1	45.9	58.9	76.8	87.6	113.0	143.9	137.5	113.3	925.2	-
CUMULATIVE PRODUCTION	84.5	90.9	101.4	121.2	148.3	194.2	253.1	329.9	417.5	530.5	674.4	811.9	925.2	-	2,489

OIL AND NATURAL GAS

The history of the oil and gas industry in Alberta dates back to 1883 when construction of the Canadian Pacific Railway necessitated a search for water along the right-of-way in southeastern Alberta. A water well drilled at Alderson struck gas at a depth of 1155 feet. The first commercial development of a field occurred at Medicine Hat where gas was discovered in 1890 when a hole was put down in search of coal.

The plains area of all western Canada has one geological characteristic which distinguishes it from the plains of the southern United States. The characteristic is that most of the surface consists of a thick mantle of glacial till. This till and the eroding action of the glaciers which produced it have eliminated almost all surface evidence of structures or folds in the underlying sedimentaries which might provide a trap for migrating oil or gas. The only exceptions are river valleys where sedimentary outcrops occur and a few ranges of hills such as the Cypress Hills and the Swan Hills which have resisted erosion. As a result, most early drilling locations were selected on the basis of mineral ownership, accessibility and other considerations, rather than the geological prospects.

The first crude oil discovery of commercial significance to be made on the Alberta plains was at Wainwright in 1925. This reservoir contains a heavy crude. Similar discoveries were made later at Vermilion and Lloydminster in east central Alberta.

Wet gas was discovered at Turner Valley in 1914. Natural gas and naptha gasoline were produced from then until 1936 when a major discovery of crude oil was made which was in the south-west flank of the Turner Valley field. Completion of the discovery well led to an extensive drilling programme. Oil production soon outgrew the available market and the principal purchaser, Imperial Oil Limited, set up a system of pro-rationing the market among the producers. The provincial government entered the resulting controversy by setting up the Petroleum and Natural Gas Conservation Board in 1938. The Board pro-rationed the market among the producers by setting a monthly quota for each well. Quotas were based on the drainage of 40 acres, bottom hole pressure, the gas-oil ratio and the rate of flow through a choke during a test. Operators were penalized for having more than one well on a 40 acre spacing unit.

The first rigid application of conservation to Turner Valley development and production was the start of an oil and gas conservation programme which was to regulate all future drilling and production in the province. It came too late for Turner Valley, however. It is estimated that wasteful production prior to 1938 so reduced the pool pressure that less than 20 per cent of the oil will be produced. This effect was aggravated by producing at maximum rates during the war years.

The oil shortage during the war turned attention to bituminous sands as a possible source of crude oil products. A search for a feasible method of separating the oil from the sand was started by the Research Council of Alberta in 1920. In 1944 the Alberta Government decided to build a plant for the extraction and refining of oil from the bituminous sands. The plant was completed at Bitumount in 1948. Some test runs were made to determine if the method used was practical on a commercial scale.

A location selected on the basis of seismic information led to the drilling of Imperial Leduc No. 1, and the discovery of the first major light oil field in the plains area of Alberta. This first Leduc well was spudded late in 1946. Early in 1947 it encountered a formation that held the light gravity oil. Subsequent drilling proved that Leduc was really two fields, one 300 feet above the other.

In April, 1948, the Gulf Oil Corporation discovered an immense wet gas reservoir south of Pincher Creek at 11,800 feet. This discovery uncovered the first major gas reserve not immediately required for an Alberta market and initiated schemes to export surplus gas from the province.

The development of the Redwater field after 1948, raised Alberta's crude oil production capacity beyond the requirements of the available market. All movements out of the Edmonton area were by rail and the relatively high charges restricted the market area to the prairies. This necessitated pro-rationing production from the new fields to match the available market in order to ensure that each producer had a fair share of that market.

Provision for new markets was made by the construction of the Interprovincial Pipeline from Edmonton to Superior, Wisconsin in 1950. In 1953 a pipeline was completed from Edmonton to Vancouver with a branch extending to the State of Washington where refineries were being constructed at Ferndale and at Anacortes. In the same year the interprovincial line was extended from Superior to Sarnia and later to Toronto. Exploration programmes resulted in substantial oil discoveries being made as far south as Drumheller and as far north as Sturgeon Lake, by the end of 1953. Most of the discoveries were made by holes drilled in search of the reef which is the source of oil at Leduc and Redwater, but the extensive drilling also led to the discovery of light crude in formations above the Devonian reefs. Several substantial pools were found in formations at lower Cretaceous age but it was in the Cardium Sand, an upper Cretaceous formation which had not previously been considered a potential oil reservoir that an immense oil field was to develop, now known as the Pembina oil field. Subsequent drilling has developed a pool with an area of over 700 square miles. The pay thickness is 15 to 20 feet. The reservoir has no water below the oil and no gas cap over it.

One of the more difficult problems with which to contend in oil production is that of the solution gas unavoidably produced with the oil. Gas gathering systems and processing plants represent a large capital expenditure. Gas conservation in an oil field is usually undertaken when it appears that the cost of the project can be repaid over the producing life of the field and yield a normal utility rate of return on the investment.

After being processed to remove natural gasoline, butane, propane and sulphur, the residue dry gas is marketed or stored. Natural gasoline is used by refineries for blending with gasoline produced from crude oil. Propane and butane are utilized as fuels, raw materials for petrochemical industries and in secondary recovery of oil. Due to seasonal variations in demand and supply, it is very important that storage facilities for the liquified gases be made available. Such facilities are provided in central Alberta near Hughenden where a salt deposit, at a depth of approximately 4500 feet, has had a cavity formed in it by injection of fresh water to produce brine. Surface installations will be used to pump the liquid gases down one hole.

Until the end of 1950 all Alberta natural gas marketed was sold within the province. Small quantities of gas started going to Dawson Creek, British Columbia in 1951, and to Montana in 1952. The lack of export of larger quantities was due to the policy of having proven reserves, adequate to meet the province's requirements for a period of thirty years, before a permit for the export of additional reserves would be granted. In 1953 a permit was approved allocating surplus gas in the Peace River area for transmission to southwestern British Columbia and northwestern United States. This project of Westcoast Transmission Company Limited, went into operation in 1957.

In 1954 the Oil and Gas Conservation Board reported a surplus of gas adequate to supply a large market area extending east as far as Montreal and south into the United States. Trans-Canada Pipelines began supplying gas to the Montreal area in 1958. The gas for this project is gathered by the Alberta Gas Trunk Line Company Limited which is constructing a network of feeder lines that, in addition to delivering gas to Trans-Canada at the Saskatchewan border, supply gas to Alberta residents within economic reach of the company's facilities.

Exploration operations beyond the edges of settled areas are handicapped by the presence of muskeg in either scattered patches or large areas covering many square miles. The seasonal advance and retreat of oil exploration crews working in these areas is caused by the near physical impossibility of moving equipment when the muskeg is not frozen.

The search for oil and gas in northern wooded areas has been rewarded with the discovery of large reserves of both oil and gas. The first of these was the discovery of oil in the Woodbend reef at Sturgeon Lake in 1953. At Red Earth, 120 miles northeast of Peace River, oil was found in the Granite Wash, a coarse sand found immediately above the Precambrian granite. In the Swan Hills, three oil fields are being developed following the discovery of oil in the Beaverhill Lake formation. In the wooded country west of Whitecourt a number of significant gas discoveries have been made.

To the end of 1958, 4439 exploratory wells had been drilled in Alberta. These wells have made discoveries at the rate of some 970 thousand barrels of recoverable oil and 6 billion cubic feet of disposable gas for each wildcat well drilled.

One of the most obvious and important results of the oil and gas discoveries and the subsequent development of these resources has been the rapid increase in Alberta's population. A second result has been the provision of a cheap supply of raw materials for petrochemical industries. A third result, which is less obvious but equally important, is that fuel prices have remained relatively stable in a period of inflation and rising living costs.

Industries which utilize by-products of oil refining and gas processing for raw materials have been attracted by low cost raw materials and power and the growing population as a source of labour. Other industries have been attracted by the requirements for oil and gas field equipment.

Ammonia has been produced in Calgary by C.M. & S. since the early years of the war. The plant utilizes the methane from natural gas to combine with atmospheric nitrogen for the production of ammonia. The ammonia is used to manufacture explosives and fertilizer.

Canadian Industries Limited utilize the high ethane content of Leduc gas to produce polythene (Polyethylene) at Edmonton converting the ethane to ethylene and polymerizing it at high pressure.

The largest addition to Alberta's chemical industry was made by the Canadian Chemical and Cellulose Company Limited with the construction of a plant at Edmonton to use oil refinery gas and propane and butane from gas processing plants in the production of alcohols, ketones, aldehydes, acetates and other industrial chemicals. The principal product is cellulose acetate which is marketed as filament yarn and staple fibre.

Sherritt Gordon Mines Ltd. produce ammonia from gas to treat concentrates from the company's mine at Lynn Lake, Manitoba by the ammonia-leach process. In addition to nickel, cobalt and copper concentrate, the plant at Fort Saskatchewan produces ammonium sulphate fertilizer as a by-product of plant operation.

Inland Chemicals Canada Ltd. has a sulphuric acid plant at Fort Saskatchewan which obtains elemental sulphur from gas processing plants. The principal market for the acid is the uranium industry of northern Saskatchewan.

At Medicine Hat, Northwest Nitro-Chemicals Limited combines ammonia from natural gas with phosphate rock from Montana to produce ammonium phosphate fertilizer.

The inception of the large scale oil and gas development programme greatly increased the demand for cement. This increase in market requirements induced foreign capital to organize the Inland Cement Company Limited, which erected a plant at Edmonton.

It was previously known that Alberta had large reserves of common salt. The drilling activity outlined a much larger deposit than had previously been known to exist. A new industry was established at Duvernay by Western Minerals Limited with the construction of a plant to process common salt for the production of chlorine and caustic soda.

TABLE 25. ESTIMATED PROVEN REMAINING RESERVES OF LIQUID HYDROCARBONS IN CANADA -
AT YEAR END, 1950 - 1957(IN 35 IMPERIAL GALLON BARRELS WHICH ARE EQUIVALENT TO 42 U.S. GALLON BARRELS)
--- THOUSANDS OF BARRELS ---

	1950	1951	1952	1953	1954	1955	1956	1957
CRUDE OIL								
NORTHWEST TERRITORIES.....	27,300	27,100	26,767	26,442	26,172	53,707	53,258	52,858
ALBERTA AND BRITISH COLUMBIA	1,165,000	1,328,000	1,526,389	1,624,496	1,928,479	2,169,985	2,391,778	2,363,026*
SASKATCHEWAN	10,300	21,000	124,247	182,159	222,365	236,872	358,693	420,457
MANITOBA	-	500	2,106	10,890	29,127	45,211	42,005	34,258
TOTAL WESTERN CANADA	1,202,600	1,376,600	1,679,509	1,843,987	2,206,143	2,505,775	2,845,734	2,870,599
ONTARIO AND NEW BRUNSWICK ..	-	-	-	1,435	1,471	3,759	3,636	3,855
TOTAL CRUDE OIL	1,202,600	1,376,600	1,679,509	1,845,422	2,207,614	2,509,534	2,849,370	2,874,454
NATURAL GAS LIQUIDS	-	11,348	65,374	198,126	208,331	247,085	279,934	394,660
TOTAL LIQUID HYDROCARBONS IN CANADA	1,202,600	1,387,948	1,744,883	2,043,548	2,415,945	2,756,619	3,129,304	3,269,114

*THESE RESERVES DO NOT REFLECT ANY INCREASES THAT MIGHT BE ATTRIBUTED TO THE LIQUID INJECTION SCHEME IN
THE PEMBINA FIELD.

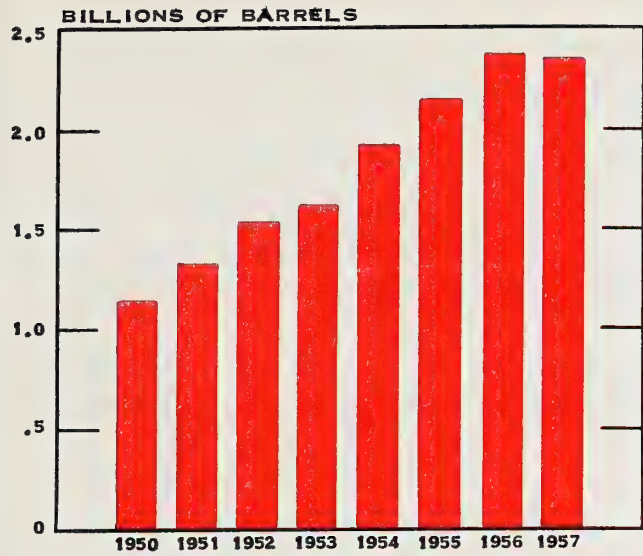
TABLE 26. CRUDE OIL PRODUCTION - BY PROVINCES

CUMULATIVE TO 1946 -- ANNUAL 1947-1957

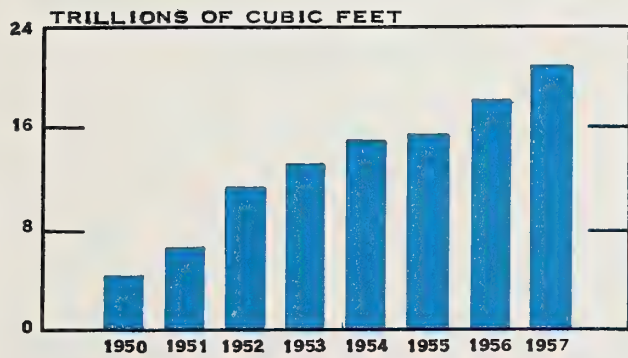
	ALBERTA	BRITISH COLUMBIA	MANITOBA	N.W.T.	SASKATCHEW- EWAN
ALL TIME CUMULATIVE TO DEC. 31, 1946....	84,462,650	-	-	2,232,851	153,726
1947	6,382,065	-	-	231,844	521,100
1948	10,504,928	-	-	324,064	842,902
1949	19,767,845	-	-	182,783	780,170
1950	27,149,369	-	-	189,472	1,039,523
1951	45,915,403	-	11,665	227,449	1,247,395
1952	58,919,024	-	107,119	314,217	1,696,946
1953	76,816,411	-	655,670	316,689	2,791,472
1954	87,637,089	-	2,148,449	369,887	5,422,899
1955	113,035,046	582	4,145,756	404,219	11,317,168
1956	143,909,641	148,454	5,786,540	449,409	21,077,570
1957	137,492,316	340,945	6,089,743	382,701	36,861,089
TOTAL	811,991,787	489,981	18,944,942	5,625,585	83,751,960

	WESTERN CANADA	PERCENT OF TOTAL CANADA %	EASTERN CANADA	PERCENT OF TOTAL CANADA %	CANADIAN TOTAL
ALL TIME CUMULATIVE TO DEC. 31, 1946....	86,849,227	77.3	25,538,380	22.7	112,387,607
1947	7,135,009	97.9	154,424	2.1	7,289,433
1948	11,671,894	98.3	198,361	1.7	11,870,255
1949	20,730,798	98.7	280,214	1.3	21,011,012
1950	28,378,364	99.1	267,792	.9	28,646,156
1951	47,401,912	99.6	212,722	.4	47,614,634
1952	61,037,306	99.7	206,051	.3	61,243,357
1953	80,580,242	99.6	310,314	.4	80,890,556
1954	95,578,324	99.6	424,454	.4	96,002,778
1955	128,902,771	99.6	537,491	.4	129,440,262
1956	171,371,614	99.6	609,914	.4	171,981,528
1957	181,166,794	99.6	646,000*	.4	181,812,794
TOTAL	920,804,255	96.9	29,386,117	3.1	950,190,372

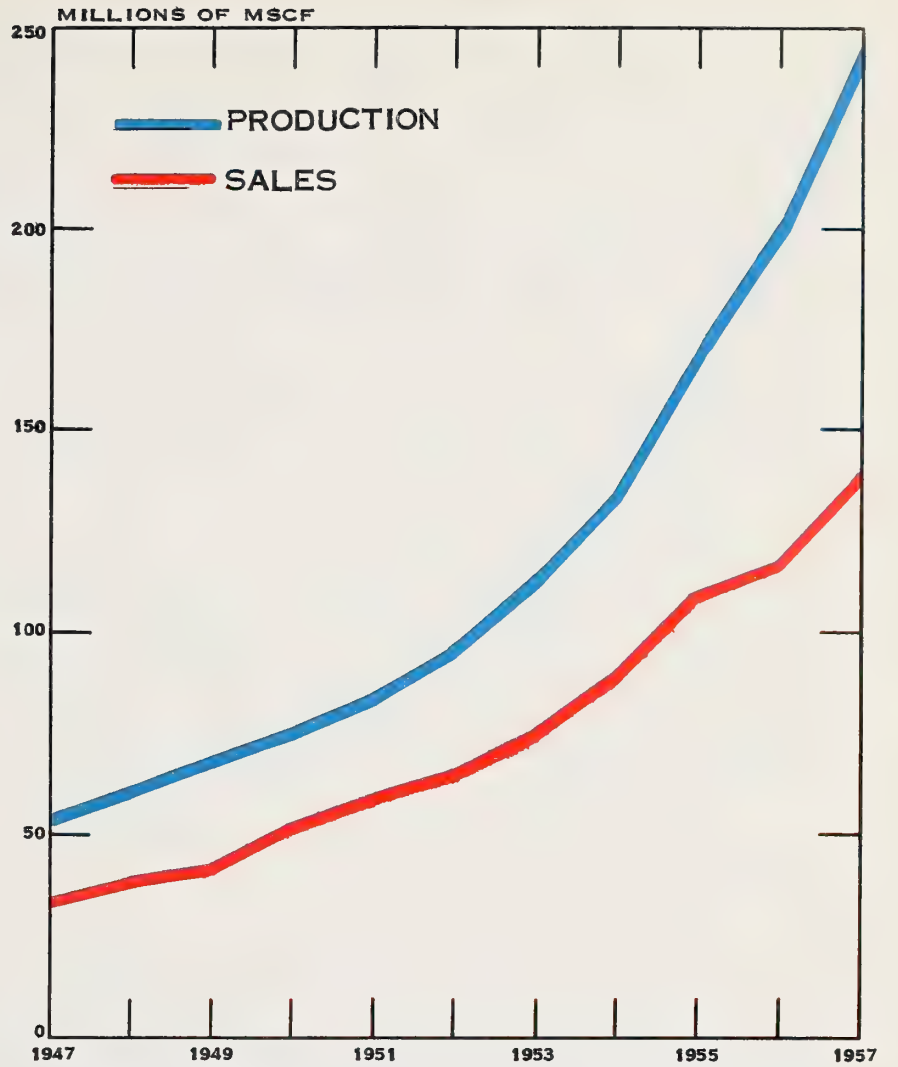
*PRELIMINARY ESTIMATE.



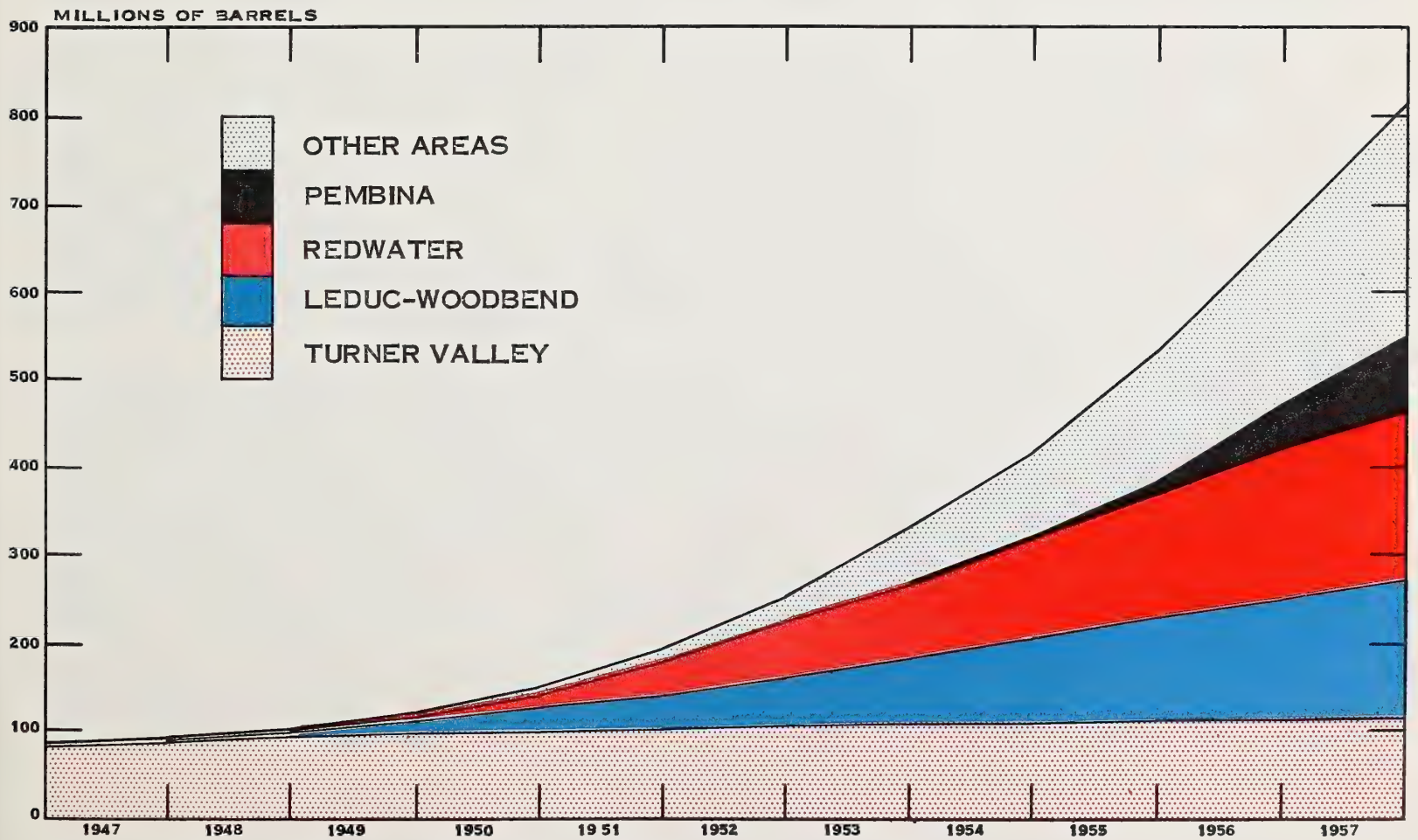
ESTIMATED RESERVES OF
CRUDE OIL, ALBERTA, 1950-1957



ESTIMATED RESERVES OF
NATURAL GAS, ALBERTA, 1950-1957



PRODUCTION AND SALES OF NATURAL GAS
ALBERTA, 1947-1957



CUMULATIVE PRODUCTION OF CRUDE OIL BY MAJOR FIELDS, ALBERTA, 1914-1957
(EARLIER YEARS OMITTED)

The manufacturing of plastic products was undertaken by Polychemical Industries Limited in a plant constructed near Edmonton. Included in the products is polythene pipe which has a number of industrial applications.

The demand for steel and the high freight rates on imported steel products led to the construction of two plants at Edmonton. Premier Steel Mills Limited produces steel for building construction. Alberta Phoenix Tube and Pipe Limited produces steel pipe for pipe line construction.

A number of industries have been established to provide equipment for oil and gas exploration and development operations. A number of firms have undertaken the manufacture of oil field hauling equipment with special adaptations for muskeg hauling.

All drilling operations involve the use of a fluid to circulate through the bit at the bottom of hole. The principal ingredient of this fluid is normally bentonite which is a clay formed by the chemical alteration of volcanic ash. Its special quality is its tendency to absorb large quantities of water and to expand greatly in the process. There are many bentonite deposits in Alberta but until 1958 no deposit had been found in which the bentonite had the desired qualities and which was large enough to justify commercial development. The first large-scale operation of bentonite production started at Rosalind in 1959. Another deposit, located at Onoway, is also being developed.

Other products which may be produced in the near future include urea, ethylene glycol and butadiene.

Urea is an organic compound used in medicine, explosive manufacture and fertilizers. One of its most important applications is to keep streets free of ice and snow in winter. For this purpose it is preferable to the chlorides commonly used in that it does not produce rust. Ethylene glycol is used in explosives, as an antifreeze, and as a solvent for waxes and resins.

Butadiene is important as the source of synthetic rubber. It is formed from butylene in waste refinery gases or from butane.

Equally important to the provincial economy has been the direct employment engendered by the development of Alberta oil and gas reserves. Approximately 2000 persons were dependent on the operations of oil firms in 1946. By 1951 over 12,000 were drawing salaries and wages of over \$41.3 million, and by 1957 the number had again increased to over 21,000 with a payroll of \$104.7 million. Just over half of these were employed by oil firms proper; the balance were employed by exploration, drilling, pipeline and service companies.

EMPLOYMENT STATISTICS, PETROLEUM INDUSTRY, ALBERTA, 1957

	Employees			Salaries and Wages \$
	Male No.	Female No.		
Oil Firms Proper	8,720	2,224	. . . . .	58,500,000
Geological and Geophysical Firms . .	1,960	49	. . . . .	8,000,000
Drilling Contractors	4,124	129	. . . . .	20,100,000
Pipeline Companies	1,371	124	. . . . .	7,100,000
Service Companies	2,289	231	. . . . .	11,100,000
TOTAL:	18,464	2,757	. . . . .	104,800,000

The foregoing figures do not include firms largely or exclusively engaged in supplying oil field machinery or equipment in wholesale or retail operations; nor do they include any manufacturing.

Total net cash expenditures of the industry in Alberta have reached substantial proportions, rising to a rate of over one half billion dollars annually.

TOTAL CASH EXPENDITURES IN ALBERTA, 1951-1957

1951	.....	\$	218,700,000
1952	.....	\$	314,900,000
1953	.....	\$	329,900,000
1954	.....	\$	366,100,000
1955	.....	\$	433,000,000
1956	.....	\$	536,200,000
1957	.....	\$	503,900,000



ALBERTA GOVERNMENT PHOTOGRAPH

Pipelines are built through prairie, forest and muskeg to transport Alberta's vast supplies of oil and natural gas to markets.

TABLE 27. OIL INDUSTRY STATISTICS - ALBERTA, 1947-1958

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
FOOTAGE DRILLED												
DEVELOPMENT	546,005	1,199,839	2,256,931	3,110,588	3,284,444	4,239,012	4,249,826	3,574,240	6,201,839	7,695,927	4,811,872	6,506,974
OUTPOST	-	-	-	-	-	527,970	323,034	283,109	269,549	215,523	283,641	417,073
EXPLORATION	336,353	463,848	944,966	1,219,610	2,278,221	1,864,547	1,850,029	1,817,410	1,973,190	2,182,129	2,377,012	2,192,665
TOTALS	882,358	1,563,687	3,201,897	4,330,198	5,562,665	6,631,529	6,422,889	5,674,759	8,444,578	10,093,579	7,472,525	9,116,712
WELL COMPLETIONS												
DEVELOPMENT												
OIL	100	206	525	719	691	830	795	579	1,077	1,306	798	899
GAS	30	14	20	19	21	69	82	70	60	64	48	141
DRY	21	28	39	50	71	161	169	104	82	98	88	104
SERVICE WELLS	-	-	-	-	-	-	-	2	13	6	8	99
OUTPOST												
OIL	**	**	**	**	**	67	43	34	23	11	19	25
GAS	**	**	**	**	**	11	24	15	8	15	16	23
DRY	**	**	**	**	**	36	35	23	18	14	28	30
EXPLORATION												
OIL	7	11	15	34	68	49	47	60	45	51	57	35
GAS	6	8	15	21	94	74	89	55	70	59	61	63
DRY	58	107	179	169	293	332	277	236	231	274	320	309
TOTALS	222	374	793	1,012	1,238	1,629	1,561	1,178	1,627	1,898	1,443	1,728
PRODUCING OIL WELLS												
TOTAL OIL	107	217	540	753	759	946	885	673	1,145	1,368	874	959
TOTAL GAS	36	22	35	40	115	154	195	140	138	138	125	227
TOTAL DRY	79	135	218	219	364	529	481	363	331	386	436	443
SERVICE WELLS	-	-	-	-	-	-	-	2	13	6	8	99
PRODUCING OIL WELLS												
PRODUCING OIL WELLS	502	717	1,242	1,995	2,731	3,661	4,504	5,068	6,135	7,390	8,015	8,550
PRODUCING GAS WELLS												
PRODUCING GAS WELLS	177	199	234	303	331	362	404	470	489	523	584	705
CAPPED GAS WELLS												
CAPPED GAS WELLS	119	114	109	75	157	259	393	491	609	713	766	871
OIL PRODUCTION												
OIL PRODUCTION	10,504,928	19,767,845	27,149,369	45,915,403	58,919,024	76,816,411	87,637,089	113,035,046	143,909,641	137,492,316	113,277,847	113,277,847
AVERAGE DAILY PRODUCTION												
AVERAGE DAILY PRODUCTION	20,000	36,000	53,000	79,000	122,000	180,000	246,000	278,000	349,000	434,000	289,000	363,000
POSSIBLE DAILY PRODUCTION												
POSSIBLE DAILY PRODUCTION	20,000	36,000	150,000	189,000	214,000	276,000	317,000	365,000	630,000	746,000	793,000	797,000
MARKET DISTRIBUTION												
PRAIRIES	10,441,787	19,377,489	24,782,602	30,889,145	36,302,538	39,361,685	37,173,867	39,644,856	41,314,007	43,586,751	39,359,416	39,359,416
BRITISH COLUMBIA	-	-	-	-	508,861	2,680,024	13,463,944	21,894,038	19,327,798	22,300,264	20,680,988	20,680,988
OTHER CANADIAN AND EXPORTS	-	-	-	14,129,328	21,088,781	25,630,021	36,690,387	51,018,084	80,325,223	74,244,869	52,261,001	52,261,001
NATURAL GAS PRODUCTION												
NATURAL GAS PRODUCTION	53,321,858	60,739,364	68,135,929	74,935,496	83,842,985	95,735,951	113,894,403	135,545,629	168,808,357	200,191,107	244,224,735	294,398,314
CONSUMED IN ALBERTA *												
CONSUMED IN ALBERTA	45,085,378	47,645,861	56,367,452	63,200,771	62,385,008	71,156,973	88,633,623	105,531,295	116,938,508	130,567,165	134,395,260	134,395,260
CONSUMED OUTSIDE ALBERTA												
CONSUMED OUTSIDE ALBERTA	-	-	-	-	268,061	8,551,128	10,067,095	7,687,977	12,058,901	11,755,193	22,503,907	71,913,408

* INCLUDES FIELD USE, PIPELINE USE, AND PLANT USE.

** CLASSIFIED DURING THESE YEARS AS EXPLORATION OR DEVELOPMENT.

OIL INDUSTRY STATISTICS - ALBERTA, 1947-1958 (CONTINUED)

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
GAS PRODUCTS												
PROPANE	-	8,486	54,158	141,070	248,554	337,678	433,083	529,117	796,482	925,716	1,111,355	1,054,702
BUTANE	-	-	-	33,906	84,527	140,228	198,401	245,189	492,051	591,638	746,309	659,661
NATURAL GASOLINE	427,225	468,655	477,446	446,384	515,027	379,873	602,771	682,378	868,416	913,572	968,162	978,085
SULPHUR	-	-	-	-	-	8,931	18,298	22,320	29,093	33,464	100,706	122,326
CROWN P. & N. G. RESERVATIONS												
NUMBER	114	295	506	502	699	704	396	547	771	1,051	1,046	899
ACRES	11,472,501	23,473,490	36,999,816	37,123,411	48,261,209	41,286,091	23,514,752	27,260,913	35,899,547	54,636,137	51,549,007	41,855,568
CROWN P. & N. G. LEASES												
NUMBER	2,458	4,606	6,500	9,351	14,329	20,062	23,343	23,207	23,273	24,584	27,167	28,823
ACRES	907,624	2,556,083	3,395,692	5,769,336	9,113,083	14,902,396	19,149,799	17,525,459	17,557,993	19,212,862	22,213,525	24,669,593
CROWN NATURAL GAS LICENSES												
NUMBER	-	-	-	-	25	39	47	25	28	26	28	28
ACRES	-	-	-	-	1,596,326	1,861,085	1,861,188	694,869	798,044	645,858	544,220	557,387
CROWN NATURAL GAS LEASES												
NUMBER	-	-	-	-	-	-	23	163	222	265	302	375
ACRES	-	-	-	-	-	-	163,917	853,800	1,052,899	1,308,334	1,540,398	1,706,610
SALES OF CROWN RESERVES												
P. & N. G. LEASES	-	3,142,258	19,165,932	36,260,288	13,680,394	22,357,440	17,596,810	23,810,941	40,258,826	66,729,673	40,365,608	26,943,761
P. & N. G. RESERVATIONS	-	-	596,634	-	1,398,174	35,365	3,698,908	32,887,754	13,544,803	1,103,633	15,621,854	10,680,718
DRILLING RESERVATIONS	-	-	-	-	-	-	-	7,244,730	8,259,252	3,858,218	11,503,167	11,881,522
N. G. LICENSES	-	-	-	-	-	-	1,239,171	876,049	303,219	961,685	713,763	996,145
N. G. LEASES	-	-	-	-	-	-	231,672	31,114	8,674	6,866	15,379	579,502
TOTAL	-	3,142,258	19,762,566	36,260,288	15,078,568	22,392,805	22,766,561	64,850,588	62,374,774	72,660,075	68,219,771	51,081,648
CROWN RENTALS												
P. & N. G.	563,597	2,018,612	5,018,928	8,584,587	14,119,468	17,838,941	20,974,141	24,216,533	20,211,440	24,669,980	29,767,283	29,676,306
NATURAL GAS	-	-	-	-	286,619	113,447	100,170	185,609	266,244	288,850	334,316	387,657
TOTAL	563,597	2,018,612	5,018,928	8,584,587	14,406,087	17,952,388	21,074,311	24,402,142	20,477,684	24,958,830	30,101,599	30,063,963
CROWN ROYALTIES *												
OIL	766,143	1,379,118	3,275,779	4,852,455	9,842,865	12,535,463	15,958,766	19,175,010	25,551,609	34,841,941	35,384,313	23,235,087
GAS	-	-	-	-	157,747	299,703	339,463	438,135	493,862	525,556	583,460	994,893
GAS PRODUCTS	-	-	-	-	-	26,116	43,607	54,634	58,185	66,148	70,718	64,771
TOTAL	766,143	1,379,118	3,275,779	4,852,455	10,000,612	12,861,282	16,341,836	19,667,779	26,103,656	35,433,645	36,038,491	24,294,751
REVENUE TOTALS	1,329,740	6,539,988	28,057,273	49,697,330	39,485,267	53,206,475	60,182,708	108,920,509	108,956,114	133,052,550	134,359,861	105,440,362

*ALL ROYALTIES FROM P. & N. G. APPEAR AS OIL ROYALTIES UNTIL 1951.



COURTESY OF ALBERTA YTONG MANUFACTURING CO., LTD.

A miniature railway system is used to transport moulds from the mixer of Alberta Ytong Manufacturing Company at Calgary.



ALBERTA GOVERNMENT PHOTOGRAPH

Asphalt "blacktop" is used extensively as an all-weather highway surface.

ATHABASCA OIL SANDS

The oil-impregnated sands which outcrop along the valley of the Athabasca River near the town of McMurray in northeastern Alberta constitute the largest known reserve of oil in the world. Estimates of its reserves vary from 100 billion to 300 billion barrels of oil. Access to the area is obtained through McMurray which is 250 miles from Edmonton.

The oil sands are part of the McMurray formation which are Lower Cretaceous in age, and directly overlie Devonian limestone. Although the origin of the oil in the formation has not been established, it has been suggested that the oil was derived mainly from the Upper Devonian and probably also Mississippian rocks. The bulk of it is possibly due to oil seepages that have been active from Lower Cretaceous times to the present, the principal migration having taken place during and immediately after the Laramide earth movements.

The oil is viscous and asphaltic, displaying considerable variation in properties. Its specific gravity at 25°C ranges from 1.005 to 1.025, and its viscosity at 50°F is 6,000 to 600,000 poise. The content of 100-penetration asphalt ranges from 65 to 80 per cent, whilst the higher hydrocarbons present correspond in volatility to heavy gasoline fractions. The amount of sulphur in the raw oil varies throughout the area; the average concentration is about five per cent by weight of the dry oil. It is distributed throughout the distillation range, although there are cyclo-paraffins present which are sulphur-free.

The crude oil is very susceptible to thermal decomposition, and the products of simple Refining are a high-sulphur gasoline, diesel oil, fuel oil, and asphalt.

The Government of Alberta made a thorough engineering study of the entire sequence of operations that would make up a complete oil-sand development. Both the cost of production and the expected value of the saleable product at the Great Lakes market were evaluated. In the "Report on the Alberta Bituminous Sands", S. M. Blair selected a sequence of operations for a complete development: the open-pit mining of the oil-sand; separation of oil from the mined sand by the hot-water washing method; coking of the crude separated oil by the fluidized solids technique to produce a pumpable cracked distillate; desulphurization of the cracked distillate by mild hydrogenation; transportation of the desulphurized oil to market by pipeline. The market product was a mixture of about 15 per cent naphtha, and 85 per cent of a product approximating No. 2 furnace oil. The total cost of producing this product and delivery of it, on a minimum scale of 20,000 barrels a day, was estimated to be \$3.10 per barrel. Its selling price was appraised at \$3.50 per barrel, 1950 prices.

A separation plant at Bitumount has a designed capacity of 500 tons of oil sand per day. It is based on the hot water method of separation. It was operated by the Government of the Province of Alberta from the summer of 1949 until it was sold to the Royalite Oil Company in 1954. In addition to the separation plant, facilities on the site include dehydration and distillation units; a power plant uses refined McMurray oil as fuel.

Comparisons of the amount of oil in the McMurray formation with the reserves of oil in normal oil fields are only realistic if placed on the same basis. This, however, cannot be done with any precision at present. Recovery of oil from the formation at depths where strip-mining is not practical depends on the development of new oil-well production techniques. This necessitates reducing the viscosity of the oil, and two methods to achieve this which are currently being investigated are "in situ" combustion and nuclear explosion.

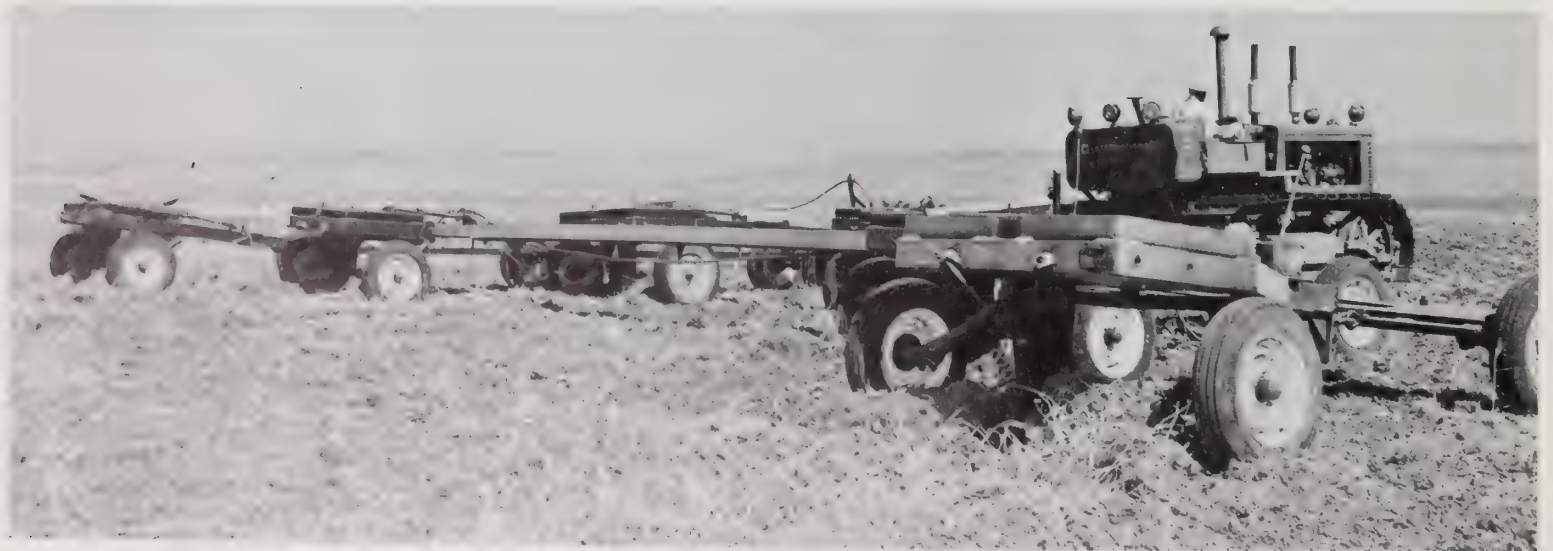
WATER POWER

Alberta's major hydro-electric installations, which are owned by Calgary Power Limited, are located on the Bow River and its tributaries and serve a large part of the southern portion of the province. The Company's total installed capacity at eleven stations in the basin is 304,150 H.P., the largest being the Ghost development on the Bow River (66,000 H.P.). Several small sites totalling 3,680 H.P. have been developed in the province by other interests. In addition, water power resources estimated at 136,000 H.P. in the Bow River basin and 312,000 H.P. in various sites on the North Saskatchewan River, are available for development. Other rivers with ample reserves of power remain to be developed. These include the Athabasca, Slave, Peace, Brazeau and Clearwater where estimated resources of 764,000 H.P., 870,000 H.P., 66,000 H.P. and 30,000 H.P. respectively, are available. They are located in the northern section of the province, rather remote from present centres of population, a factor which no doubt will cause delay in their development.

In southern Alberta, the increasing demand for power is being met to a large degree by thermal-electric plants for which economic sources of fuels - coal, oil and natural gas - are in abundant supply.

HYDRO-ELECTRIC DEVELOPMENTS - ALBERTA, 1958

Development	River	<u>Year Installed</u>		Head in Feet	<u>Total Capacity - H.P.</u>	
		<u>First Unit</u>	<u>Latest Unit</u>		<u>Installed</u>	<u>Ultimate</u>
Ghost	Bow	1929	1954	109	66,000	66,000
Spray Lakes	Spray Diversion	1950	1951	905	62,000	62,000
Cascade	Cascade	1942	1957	320	46,000	46,000
Kananaskis	Bow	1913	1913	72	24,000	24,000
Rundle	Spray Diversion	1951	1951	320	23,000	23,000
Bearspaw	Bow	1954	1954	48	20,750	20,750
Horseshoe	Bow	1911	1913	71	20,000	20,000
Pocaterra	Kananaskis	1955	1955	210	18,400	18,400
Barriere	Kananaskis	1947	1947	150	13,500	13,500
Interlakes	Kananaskis	1955	1955	127	6,900	6,900
Three Sisters	Spray Diversion	1951	1951	50	3,600	3,600



ALBERTA GOVERNMENT PHOTOGRAPH

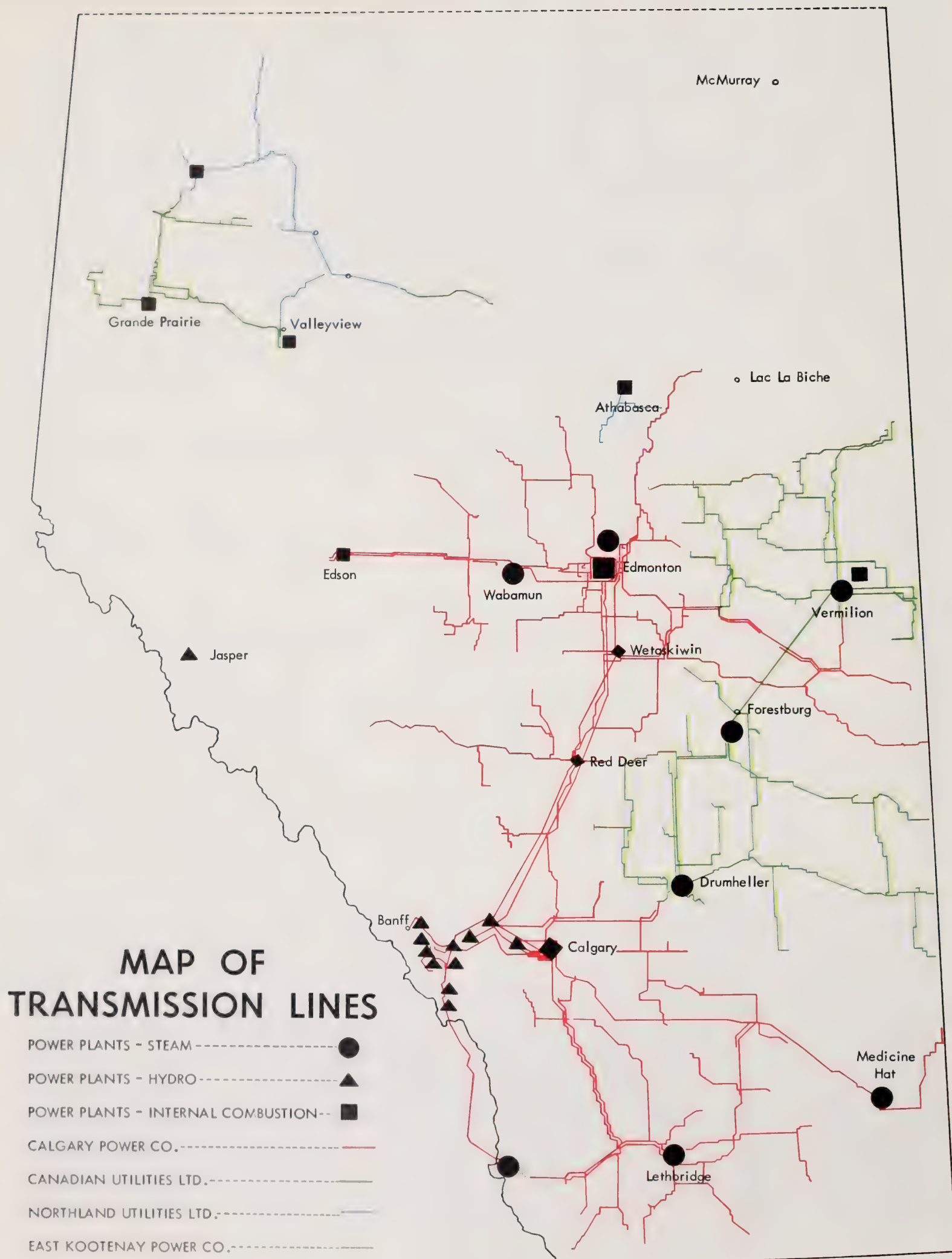
Specially designed farm equipment is manufactured in Alberta
for use on prairie farms.

TABLE 28. MAXIMUM, MINIMUM AND MEAN DAILY RIVER FLOWS FOR ANNUAL PERIODS
OCTOBER 1ST - SEPTEMBER 30TH, 1947-56

(DAILY FLOW IN CUBIC FEET PER SECOND)

LOCATION	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
SOUTH SASKATCHEWAN RIVER AT	MAXIMUM	36,820	90,230	20,260	38,610	59,450	37,910	144,300	38,500	34,990
	MINIMUM	2,220	542	214	448	1,060	2,690	1,610	1,330	2,100
	MEAN	8,450	13,020	4,010	6,630	13,220	10,400	11,490	9,105	8,221
BOW RIVER AT	MAXIMUM	13,160	19,730	7,080	14,820	—	14,400	18,080	13,720	12,860
	MINIMUM	930	648	500	301	—	1,590	966	232	760
	MEAN	3,470	3,980	2,360	2,490	—	5,548	5,406	4,055	3,419
RED DEER RIVER AT	MAXIMUM	18,980	24,120	2,630	8,180	13,300	37,900	21,570	42,620	12,000
	MINIMUM	306	312	255	136	165	430	200	220	248
	MEAN	1,970	2,940	775	949	1,880	2,635	2,280	3,321	2,301
NORTH SASKATCHEWAN RIVER AT	MAXIMUM	28,600	65,440	32,630	50,330	39,020	109,700	44,900	106,600	30,380
	MINIMUM	602	1,140	730	430	624	1,030	652	833	1,040
	MEAN	7,260	11,260	5,170	6,470	7,420	9,440	8,659	12,170	7,814
ATHABASCA RIVER AT	MAXIMUM	70,460	128,800	36,260	55,270	63,410	85,690	192,300	78,850	62,780
	MINIMUM	8,630	8,800	5,210	4,730	8,630	2,390	1,490	2,300	1,960
	MEAN	24,020	39,870	16,010	20,280	26,730	14,240	16,020	24,850	16,560

SOURCE- ALBERTA, PROVINCE OF OPPORTUNITY -- CALGARY POWER LTD., 1958, CALGARY, ALBERTA.



CENTRAL ELECTRIC STATIONS

Alberta, with its fuel resources, is the potentially richest province in Canada in energy reserves. Its reserves of oil, natural gas and coal promise to turn it into a major industrial area. One of the requirements of such an industrial area is a plentiful and cheap supply of electric power. Fortunately, Alberta has the required energy reserves for the production of an almost unlimited quantity of electric power.

In addition to Alberta's resources of water power and its tremendous coal supply, the province is blessed with an abundance of natural gas and oil. All of these combined make it the richest Canadian province from the standpoint of energy. Ours is a power-hungry age. Energy is perhaps our most important single commodity. The use of energy on the North American continent is rising rapidly. Before long Canada's 50 million H.P. of available water power will be approaching the point of complete utilization. But before that point is reached more and more industries needing power will be pressed to turn to Alberta's coal fields.

In water power alone, Alberta has more than 2,750,000 H.P., of which only 310,000 H.P. has been developed so far; 11.3 per cent of the total. The province's coal fields contain 47.8 billion tons of mineable coal - that is more than half of all the mineable coal in Canada. Proven oil and gas reserves are large enough to serve all Canada's immediate needs - with a substantial surplus for export.

On December 31, 1957, Alberta's steam, hydro and internal combustion power plants had a total capacity of 595,830 K.W., and during that year generated 2,243,174,000 K.W.H. of electricity and served 292,010 customers including farms. Taking into account the province's ordinary growth, the installed capacity of power plants is expected to be 1,100,000 K.W. by 1962, an increase of over 500,000 K.W. From studies made by the Alberta Power Commission it is expected that about three-quarters of this added capacity will be in thermal plants using natural gas or coal as fuel, while the remainder will be obtained by hydro plants.

The additional hydro power needed during this period will be developed on the Bow River and on the headwaters of the North Saskatchewan River. While the Athabasca River has some excellent power sites with a potential of 1,600,000 H.P., development of them is not expected to be started prior to 1962. While most of Alberta's thermal plants are using natural gas for fuel, it is expected that by 1962 the largest plants will have been converted to the use of strip-mined coal. In many areas of the province there are large seams of coal which can be stripped readily. It is expected that the large thermal stations of the near future will be located on such coal seams. Because of the extremely low cost of power generated from strip-mined coal, hydro plants in the province are assuming the role of carrying the peak load, while thermal plants carry the base load. This combination of steam and hydro plants provides Alberta with extremely low cost power.

An interconnected system of power plants and transmission lines joins all the major points in the province south of the Athabasca River. This system, in 1957, had combined capacity of 575,000 K.W. generated 2,191,000,000 K.W.H. and served 278,354 customers.

In addition there is another interconnected system in the Peace River country. Northern Utilities Limited serves practically all the towns north of the Peace River and east of the Smoky River; and Canadian Utilities Limited serves nearly all of the towns south of the Peace. The Peace River systems in 1957 had a capacity of 14,520 K.W. in internal combustion power plants, generated 42,354,000 K.W.H. and served 11,441 customers. Isolated plants serve Jasper, McMurray and Fort Vermilion.

Alberta is criss-crossed by a grid of main high voltage feeders and lesser transmission lines totalling over 10,800 miles. These lines are being extended rapidly to distant points of the vast province and serve industry in many areas.

Below are outlined some comparisons of industrial power costs in Alberta (1958) as compared with similar industries in the United States (1954). The United States costs figures were compiled by the Edison Electrical Institute in March, 1958:

	UNITED STATES INDUSTRIES (1954)		ALBERTA INDUSTRIES (1958)
	% Cost of Purchased Power to Value of Product	Cost ¢ per KWH Purchased Power	Cost ¢ per KWH Purchased Power
Creamery Butter	0.4	1.7	1.5
Beet Sugar	1.2	1.5	1.72
Plywood	0.9	1.0	1.19
Paper and Board Products	0.5	1.3	1.17
Sulphuric Acid	1.7	0.8	0.91
Plastic Materials & Elastomers	0.8	1.0	0.81
Explosives	1.0	1.0	0.69
Fertilizers	0.9	1.2	0.51
Petroleum Refining	0.6	0.8	0.59
Glass Products, made of purchased glass	0.6	1.3	1.04
Cement, Hydraulic	6.0	0.8	0.69
Brick and Hollow Tile	2.4	1.5	2.22
Lime	3.1	1.2	1.11
Blast Furnaces (Arc Furnace CP.LTD) .. Steel Works and Rolling Mills	-	0.9	0.77 1.01
Welded & Heavy-Riveted Pipe	0.8	1.2	1.26
Plastic Products	1.1	1.5	1.24

Anyone considering locating an industry in Alberta would be well advised to contact the Director of Industrial Development in any one of the cities in the province, or Calgary Power Ltd., 140 - 1st Avenue, West, Calgary; Canadian Utilities Limited, 10529 Jasper Avenue, Edmonton; or Northland Utilities Limited, 10042 - 109th Street, Edmonton.

TABLE 29. DISPOSAL OF ELECTRIC ENERGY, BY TYPE OF CONSUMER, ALBERTA, 1947-1956

FARM SERVICE					DOMESTIC SERVICE					
CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.	CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.	
NO.	K. W. HRS.	\$	\$	\$	NO.	K. W. HRS.	\$	\$	\$	
1947	2,275	3,844,386	214,435	94.26	.056	97,859	84,521,614	3,258,354	33.30	.039
1948	3,393	6,389,000	326,801	96.32	.051	105,324	101,159,000	3,672,869	34.87	.036
1949	5,017	10,678,000	437,336	87.17	.041	116,423	119,650,000	4,176,878	35.88	.035
1950	7,866	17,698,835	598,608	76.10	.034	126,266	146,506,165	4,786,169	37.91	.033
1951	11,415	28,088,000	822,999	72.10	.029	132,547	171,199,000	5,482,130	41.36	.032
1952	13,818	37,960,000	1,024,527	74.14	.027	144,541	195,276,000	6,109,507	42.27	.031
1953	18,634	48,529,000	1,249,533	67.06	.026	155,058	233,623,000	6,965,405	44.92	.030
1954	24,688	73,016,000	1,763,112	71.42	.024	165,990	282,627,000	8,000,898	48.20	.028
1955	31,619	91,138,000	2,153,000	68.09	.024	180,553	327,832,000	8,921,000	49.41	.027
1956	35,005	113,951,000	2,605,000	74.42	.023	187,182	387,081,000	9,967,000	53.25	.026
COMMERCIAL LIGHT					SMALL POWER (UNDER 50 K.W.) **					
CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.	CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.	
NO.	K. W. HRS.	\$	\$	\$	NO.	K. W. HRS.	\$	\$	\$	
1947	22,429	77,081,000	2,947,420	131.41	.038	7,246	46,260,000	1,181,142	163.01	.026
1948	24,339	90,206,000	3,403,085	139.82	.038	7,656	46,911,000	1,326,013	173.20	.028
1949	26,056	104,731,000	3,910,042	150.06	.037	8,224	50,199,000	1,434,361	174.41	.029
1950	27,530	120,235,000	4,506,545	163.70	.037	8,918	66,184,000	1,767,919	198.24	.027
1951	30,617	137,446,000	5,077,088	165.83	.037	8,964	70,244,000	2,102,817	234.58	.030
1952	29,478	154,751,000	5,692,184	193.10	.037	9,564	80,442,000	2,211,737	231.26	.027
1953	33,159	167,527,000	6,188,310	186.63	.037	10,446	89,813,000	2,618,899	250.71	.029
1954	33,946	189,067,000	6,937,611	204.37	.037	10,796	124,721,000	3,286,828	304.45	.026
1955	38,876	215,617,000	7,855,000	202.05	.036	11,474	152,001,000	3,746,000	326.48	.025
1956	37,254	245,244,000	8,660,000	232.46	.035					
LARGE POWER (OVER 50 K.W.) **					MUNICIPAL POWER **					
CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.	CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.	
NO.	K. W. HRS.	\$	\$	\$	NO.	K. W. HRS.	\$	\$	\$	
1947	720	324,037,000	2,577,636	3,580.05	.008	150	17,361,000	182,612	1,217.41	.011
1948	727	345,757,000	2,877,713	3,958.34	.008	157	19,815,000	199,474	1,270.54	.010
1949	782	373,722,000	2,925,075	3,740.51	.008	142	22,107,000	345,719	2,434.64	.016
1950	952	386,313,000	3,237,404	3,400.63	.008	151	22,480,000	225,496	1,493.35	.010
1951	1,699	441,030,000	3,932,932	2,314.85	.009	197	21,903,000	229,362	1,164.27	.010
1952	2,258	503,977,000	4,857,375	2,151.18	.010	221	22,984,000	250,601	1,133.94	.011
1953	2,714	590,147,000	6,032,197	2,222.62	.010	250	20,168,000	258,360	1,033.44	.013
1954	3,047	601,423,000	6,123,521	2,009.67	.010	255	25,866,000	296,367	1,162.22	.011
1955	3,289	660,546,000	6,856,000	2,084.52	.010	260	28,251,000	269,000	1,034.62	.010
POWER EXCLUDING DELIVERIES TO ELECTRIC BOILERS										
	CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.					
	NO.	K. W. HRS.	\$	\$	\$					
1956	16,426	1,022,309,000	12,926,000	786.92	.013					
STREET LIGHTING ONLY					FREE SERVICES					
CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.	LOSSES					
NO.	K. W. HRS.	\$	\$	\$	K. W. HRS.	K. W. HRS.				
1947	255	12,297,000	311,312	1,220.83	.025	3,694,000	77,634,000			
1948	280	12,308,000	330,742	1,181.22	.027	3,531,000	103,063,000			
1949	301	13,340,000	364,666	1,211.51	.027	2,420,000	114,095,000			
1950	315	13,830,000	402,262	1,277.02	.029	4,214,000	108,259,000			
1951	355	16,107,000	431,096	1,214.35	.027	5,585,000	113,024,000			
1952	379	16,811,000	474,026	1,250.73	.028	5,803,000	153,503,000			
1953	398	17,805,000	508,191	1,276.86	.029	2,524,000	169,596,000			
1954	404	18,476,000	643,455	1,592.71	.035	2,292,000	196,967,000			
1955	436	45,640,000	762,000	1,747.71	.017	*	240,305,000			
1956	480	25,585,000	742,000	1,545.83	.029	*	255,191,000			
TOTAL										
	CUSTOM-ERS	K. W. HOURS	REVENUE EARNED	PER CUSTOM-ER	PER K. W. HR.					
	NO.	K. W. HRS.	\$	\$	\$					
1947	130,934	646,730,000	10,672,911	81.51	.017					
1948	141,876	729,139,000	12,136,697	85.54	.017					
1949	156,945	810,942,000	13,594,077	86.62	.017					
1950	171,998	885,720,000	15,524,403	90.26	.018					
1951	185,794	1,004,626,000	18,078,424	97.30	.018					
1952	200,259	1,171,507,000	20,619,957	102.97	.018					
1953	220,659	1,339,732,000	23,820,895	107.95	.018					
1954	239,126	1,514,455,000	27,051,792	113.13	.018					
1955	266,507	1,761,330,000	30,562,000	114.68	.017					
1956	276,347	2,049,361,000	34,900,000	126.29	.017					

* INCLUDED IN LOSSES.

** INCLUDED UNDER THE HEADING 'POWER EXCLUDING DELIVERIES TO ELECTRIC BOILERS IN 1956.'

By the end of 1957, 41,130 farms were receiving Central Station service. The Alberta Power Commission estimated that on this basis the programme of farm electrification could be considered 69 per cent completed. The number of farms in the province has been decreasing so that at present there are less than 70,000. North American experience indicates that ultimate saturation is 85 per cent. During 1957 the average consumption per farm was 3,564 K.W.H. per year.

The following companies or municipalities generate or retail power to their customers:

COMPANIES OR MUNICIPALITIES GENERATING AND RETAILING POWER TO CUSTOMERS

Name of Company	Head Office Address
Calgary Power Ltd. -----	140 - 1st Ave. W., Calgary
Canadian Utilities Limited -----	10529 Jasper Ave., Edmonton
Northland Utilities Limited -----	10042 - 109th St., Edmonton
East Kootenay Power Company Limited -----	Fernie, B.C.
Canadian Collieries (Dunsmuir) Ltd. -----	Mercoal
City of Edmonton -----	Edmonton
City of Lethbridge -----	Lethbridge
City of Medicine Hat -----	Medicine Hat

TOWNS AND CITIES PURCHASING AND RETAILING POWER TO RESIDENTS

City of Calgary -----	Town of Fort Macleod
City of Red Deer -----	Town of Ponoka
Town of Cardston -----	

All towns and villages and the majority of the hamlets in the province not mentioned above are served at retail by one or other of the various power companies.

In 1956, according to the Dominion Bureau of Statistics, the cost per K.W.H. for domestic consumers was 2.51¢ which gave Alberta the fifth lowest cost in Canada. Commercial and other rates bear essentially the same relation to the cost in the rest of Canada while rates for large industries using 1,000 H.P. and up, are amongst the cheapest in Canada.

The cost of power comparisons for industry can be highly misleading unless load factors and other conditions of service are taken into account. Because of Alberta's large steam plants, which use very low cost fuel, industries, such as petrochemical plants and refineries which operate continuously at or near full load, can be supplied with very low cost power. Such industries might be well advised to investigate the cost of using Alberta's low cost fuels for power of their own generation, particularly if they need large amounts of process steam.

Industrial customers in many cases can take advantage of savings that result from special types of service such as "off-peak", "interruptable" or "at will". When it comes to the question of location, the cost of power is a relatively insignificant factor to many industries. Where power is a major factor in the cost of a product industrial plants could be located close to a large steam power station, thus eliminating the cost of transmission.

The availability of low cost fuel in almost unlimited quantities gives reasonable assurance that in Alberta cheap power will be available to industrial users at prices that will compare favourably with those in any other part of Canada. Moreover, because of the large quantities of fuel available, power rates may be expected to remain stable for many years to come, or decline as output increases and technology improves.

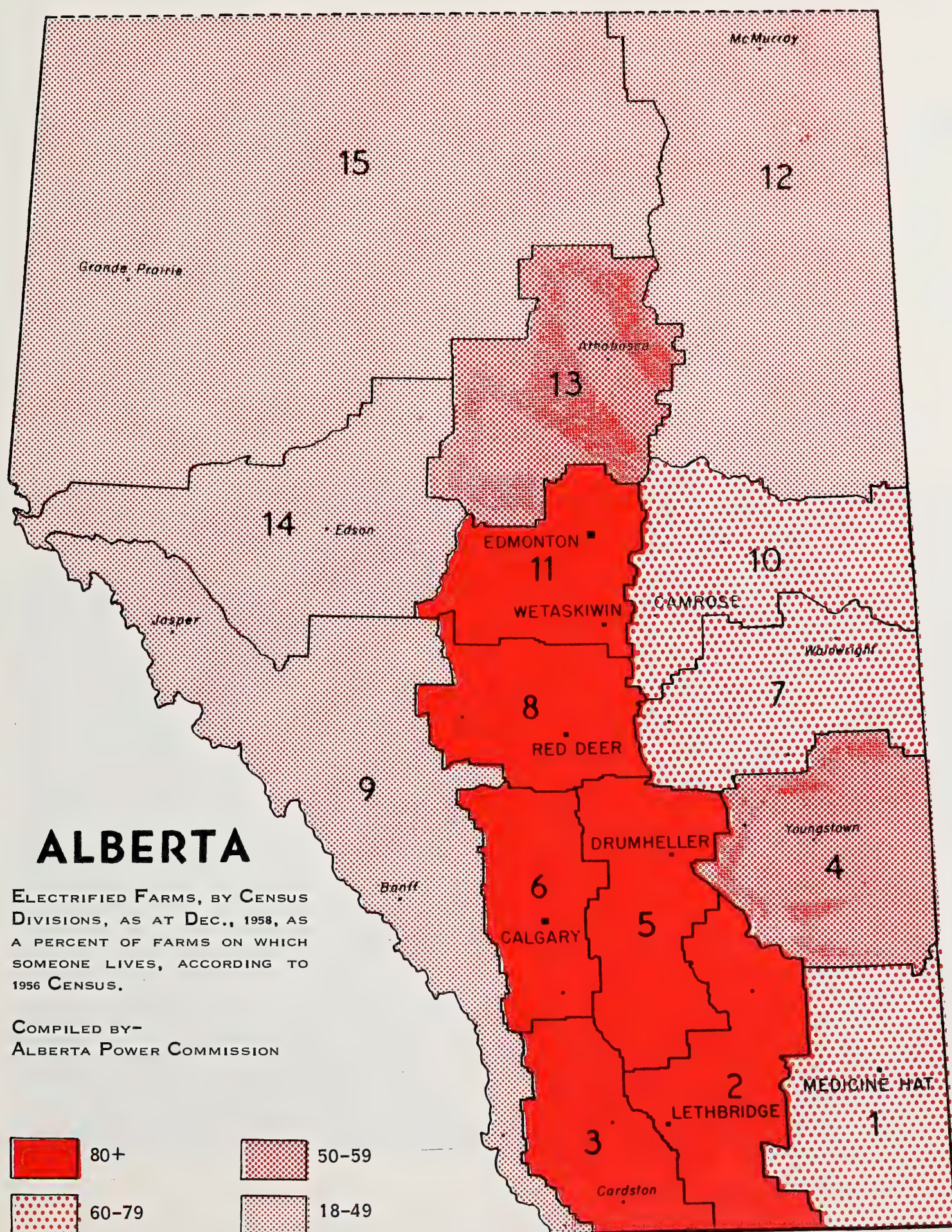


TABLE 30. PLANT CAPACITY, PEAK LOAD AND NET K.W.H. GENERATED
CENTRAL ELECTRIC STATIONS, ALBERTA - 1958

PRIVATELY OWNED

	PLANT CAPACITY DEC. 31 58 K.W.	PEAK LOAD (K.W.) ON PLANTS DURING 1958	K.W.H. GEN. NET - 1958 (THOUSANDS)
CALGARY POWER LTD.	384,000	326,900	1,384,080
CANADIAN UTILITIES LTD.	86,025 (1)	57,600	219,420 (2)
NORTHLAND UTILITIES LTD.	13,279	9,600	25,504
EAST KOOTENAY POWER CO. LTD. (3) ...	12,500	5,600	183
TOTAL	495,804		1,629,187

PUBLICLY OWNED

CITY OF EDMONTON	155,000	132,000	530,836
CITY OF LETHBRIDGE	23,500	13,400	55,559
CITY OF MEDICINE HAT	43,400	41,000	260,370 (4)
TOTAL	221,900		846,765

GRAND TOTAL 717,704 2,475,952

TABLE 31. PLANT CAPACITY, PEAK LOAD AND K.W.H. GENERATED, BY SOURCE OF POWER
CENTRAL ELECTRIC STATIONS, ALBERTA - 1958

HYDRO

	PLANT CAPACITY DEC. 31 58 K.W.	PEAK LOAD (K.W.) ON PLANTS DURING 1958	K.W.H. GEN. NET - 1958 (THOUSANDS)
CALGARY POWER LTD.	240,000	232,800	985,753
NORTHLAND UTILITIES LTD.	1,600	750	4,678
TOTAL	241,600		990,431

STEAM

CALGARY POWER LTD.	144,000	137,000	398,263
CANADIAN UTILITIES LTD. (5)	68,500	49,300	184,983
EAST KOOTENAY POWER CO. LTD. (3) ...	12,500	5,600	183
CITY OF EDMONTON (7)	155,000	132,000	530,836
CITY OF LETHBRIDGE (7)	23,500	13,400	55,559 (4)
CITY OF MEDICINE HAT	43,400	41,000	260,370 (1)
TOTAL	446,900		1,430,194

INTERNAL COMBUSTION

CALGARY POWER LTD.			64 (2)
CANADIAN UTILITIES LTD. (6)	17,525 (1)	8,300	34,437
NORTHLAND UTILITIES LTD.	11,679	8,850	20,826
TOTAL	29,204		55,327

GRAND TOTAL 717,704 2,475,952

(1) INCLUDES ONE 1,200 K.W. UNIT AT FAIRVIEW.

(2) INCLUDES SOME K.W.H. GENERATED AT FAIRVIEW.

(3) THE EAST KOOTENAY POWER PLANT IS LOCATED AT SENTINEL SOME TWO OR THREE MILES INSIDE THE ALBERTA BORDER. WHILE THIS ENERGY IS GENERATED IN ALBERTA, MOST OF IT IS EXPORTED TO BRITISH COLUMBIA.

(4) INCLUDES 189,934,700 K.W.H. SOLD TO CALGARY POWER LTD.

(5) INCLUDES GAS TURBINE AT VERMILION.

(6) INCLUDES GAS TURBINE AT VALLEYVIEW.

(7) INCLUDES GAS TURBINE.

TABLE 32. RELATIVE POSITIONS OF STEAM, HYDRO AND INTERNAL COMBUSTION
SOURCES OF POWER - CENTRAL ELECTRIC STATIONS
ALBERTA - 1958

METHOD OF GENERATION

	PER CENT OF POWER GENERATED %	PER CENT OF CAPACITY %
HYDRO	40.0	33.7
STEAM	57.8	62.2
INTERNAL COMBUSTION	2.2	4.1
	<u>100.0</u>	<u>100.0</u>

TYPE OF OWNERSHIP

PUBLICLY OWNED	34.2	30.9
PRIVATELY OWNED	65.8	69.1
	<u>100.0</u>	<u>100.0</u>



ALBERTA GOVERNMENT PHOTOGRAPH

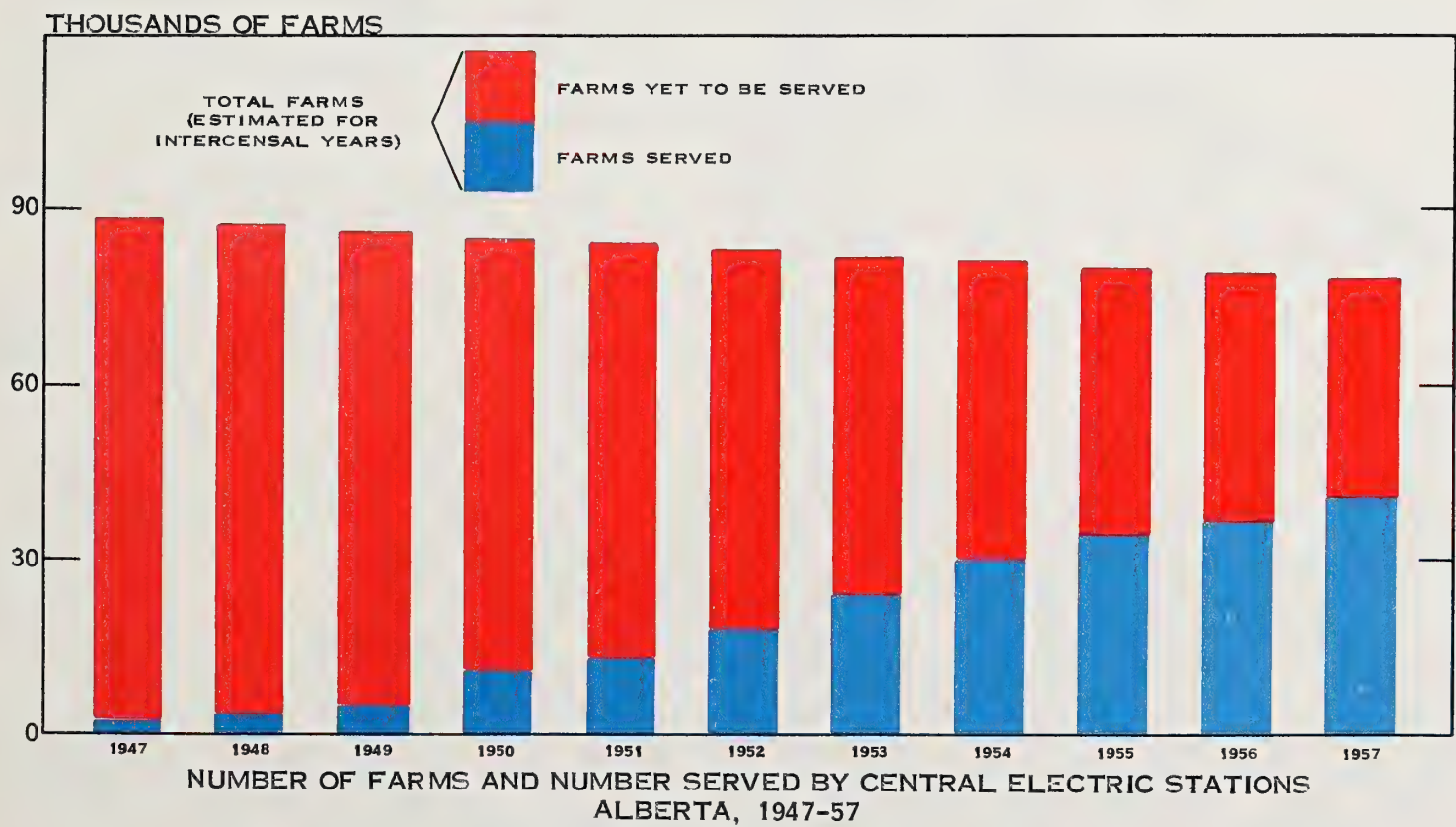
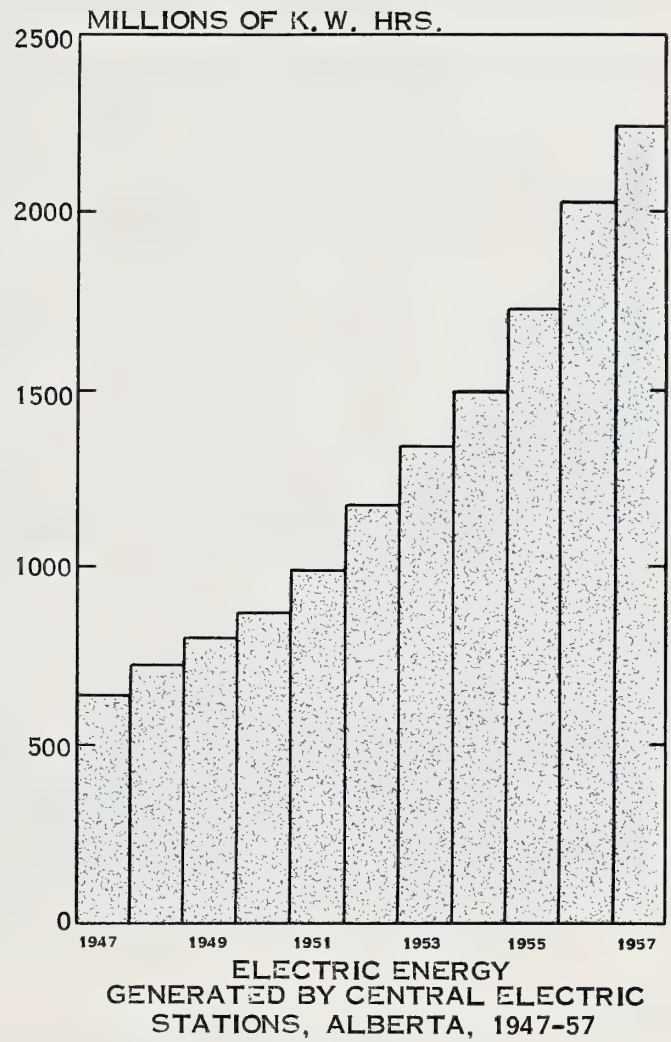
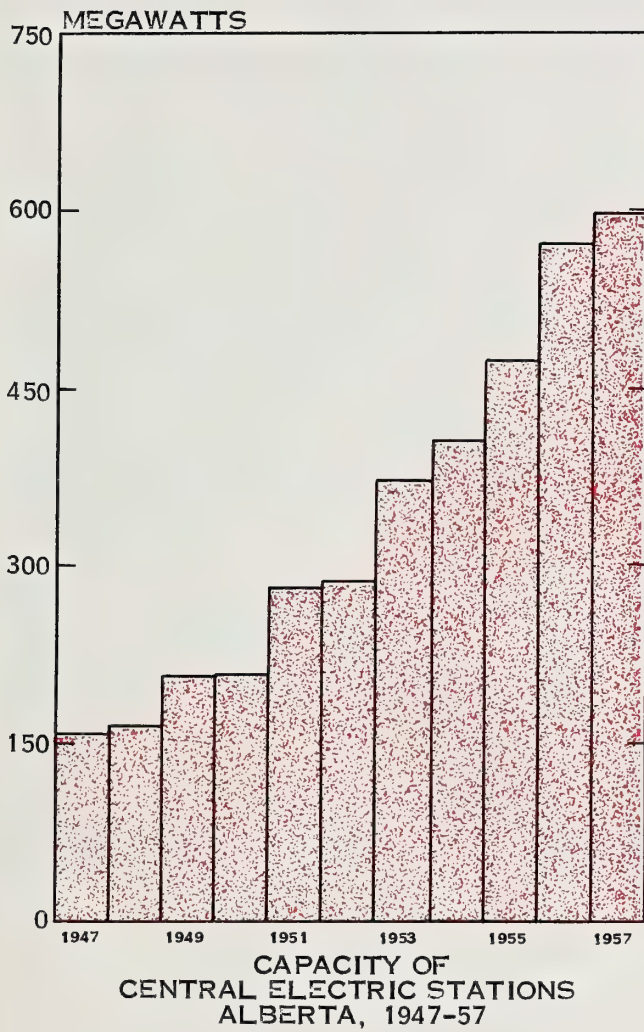
Hydro-electric power is generated at the Bearpaw dam site near Calgary.

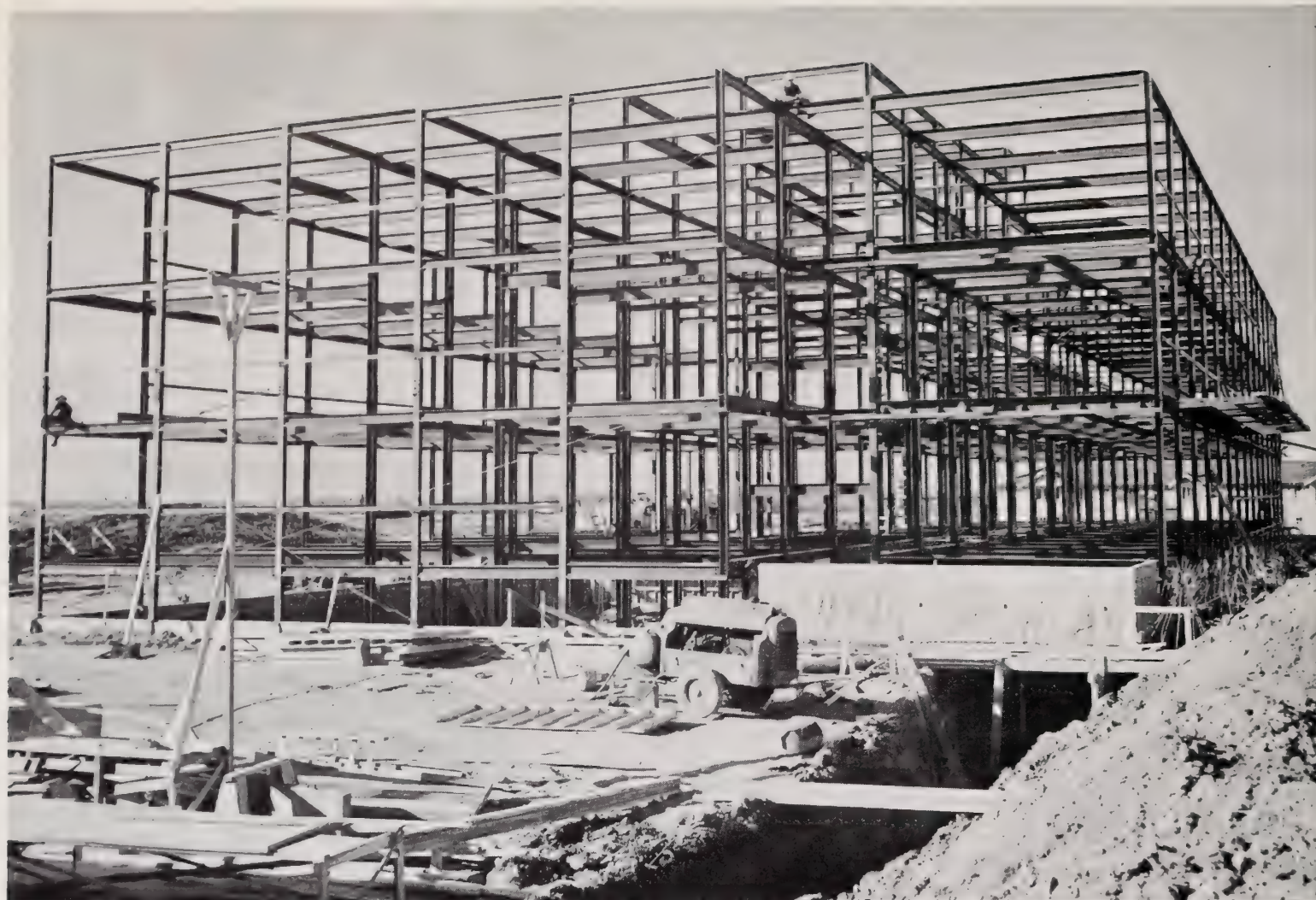
TABLE 33. CAPACITY OF CENTRAL ELECTRIC STATIONS
ALBERTA, CANADA, SASKATCHEWAN AND MANITOBA, 1947-1957
(M.W.)

YEAR		ALBERTA	CANADA	SASKATCHEWAN	MANITOBA
1947	.....	158	7,165	197	332
1948	.....	165	7,491	218	350
1949	.....	207	7,939	232	350
1950	.....	208	8,734	234	445
1951	.....	280	9,724	272	457
1952	.....	288	10,613	322	542
1953	.....	372	11,687	347	561
1954	.....	405	12,479	356	561
1955	.....	477	13,422	394	637
1956	.....	572	14,376	415	637
1957	.....	596	15,695	452	644

TABLE 34. ELECTRIC ENERGY GENERATED BY CENTRAL ELECTRIC STATIONS
ALBERTA, CANADA, SASKATCHEWAN AND MANITOBA, 1947-1957
(MILLIONS OF K.W.H.)

YEAR		ALBERTA	CANADA	SASKATCHEWAN	MANITOBA
1947	.....	641	43,424	763	2,032
1948	.....	724	42,390	805	2,056
1949	.....	801	44,419	858	2,160
1950	.....	869	48,494	903	2,449
1951	.....	997	54,852	979	2,565
1952	.....	1,174	59,409	1,079	2,699
1953	.....	1,340	62,860	1,174	2,754
1954	.....	1,498	65,936	1,292	3,011
1955	.....	1,729	72,911	1,482	3,104
1956	.....	2,020	78,004	1,551	3,334
1957	.....	2,243	81,637	1,678	3,341





ALBERTA GOVERNMENT PHOTOGRAPH

Familiar scenes in Alberta's multi-million dollar construction industry.

ALBERTA GOVERNMENT PHOTOGRAPH



CONSTRUCTION

The value of construction work performed in Alberta is estimated at nearly \$805 million for 1958. This is an increase of over 112 per cent since 1951 when the dollar value exceeded \$379 million. Even taking the depreciation in the value of the dollar, and the increase in population into consideration, the increase above the \$15 million of 1938 is remarkable.

Perhaps even more significant is the growth of the construction industry relative to other industries of the province. In 1938 the industry added 10 per cent to the net value of production in the province; by 1946 the proportion had risen to 14 per cent; and by 1955 to 27 per cent. In spite of the tremendous and well publicized growth of the oil industry, the construction industry has ranked consistently higher in new wealth added since 1946 --- and gave employment to far more persons. In 1954 and 1955 it even ranked above agriculture as the industry of major importance.

It should be noted that the construction industry in the four western provinces is of more relative importance than in the central provinces of Canada. For instance, the per capita net value of construction in 1955 in Ontario was \$184.3; in Quebec \$144.7; (in the four western provinces combined, \$226.8); and for Alberta alone \$310.8. As the western provinces are relatively undeveloped, it is likely that this imbalance will continue for some decades; that the construction industry will flourish accordingly; and that firms supplying materials and tools for the construction trades will benefit from growing markets.

The Dominion Bureau of Statistics revised series on value of construction work performed, covers only the years from 1951 on. It is interesting to note that expenditures on building construction for the period 1951-54 exceed those on engineering construction. Since 1954 expenditures on engineering construction have been substantially the higher. The major impetus in this field has been given by the expenditures on gas and oil facilities. Expenditures on these facilities rose from \$61 million in 1951 to \$246 million in 1958.

Residential building more than doubled in value, rising from \$78 million in 1951 to \$162 million in 1958. Although the types of materials used in construction have altered gradually, and the weighting of the different types has altered substantially, it is interesting to note the solidly developing market for construction materials generally. The annual cost of the materials used rose from \$199 million to \$354 million over the eight-year period.

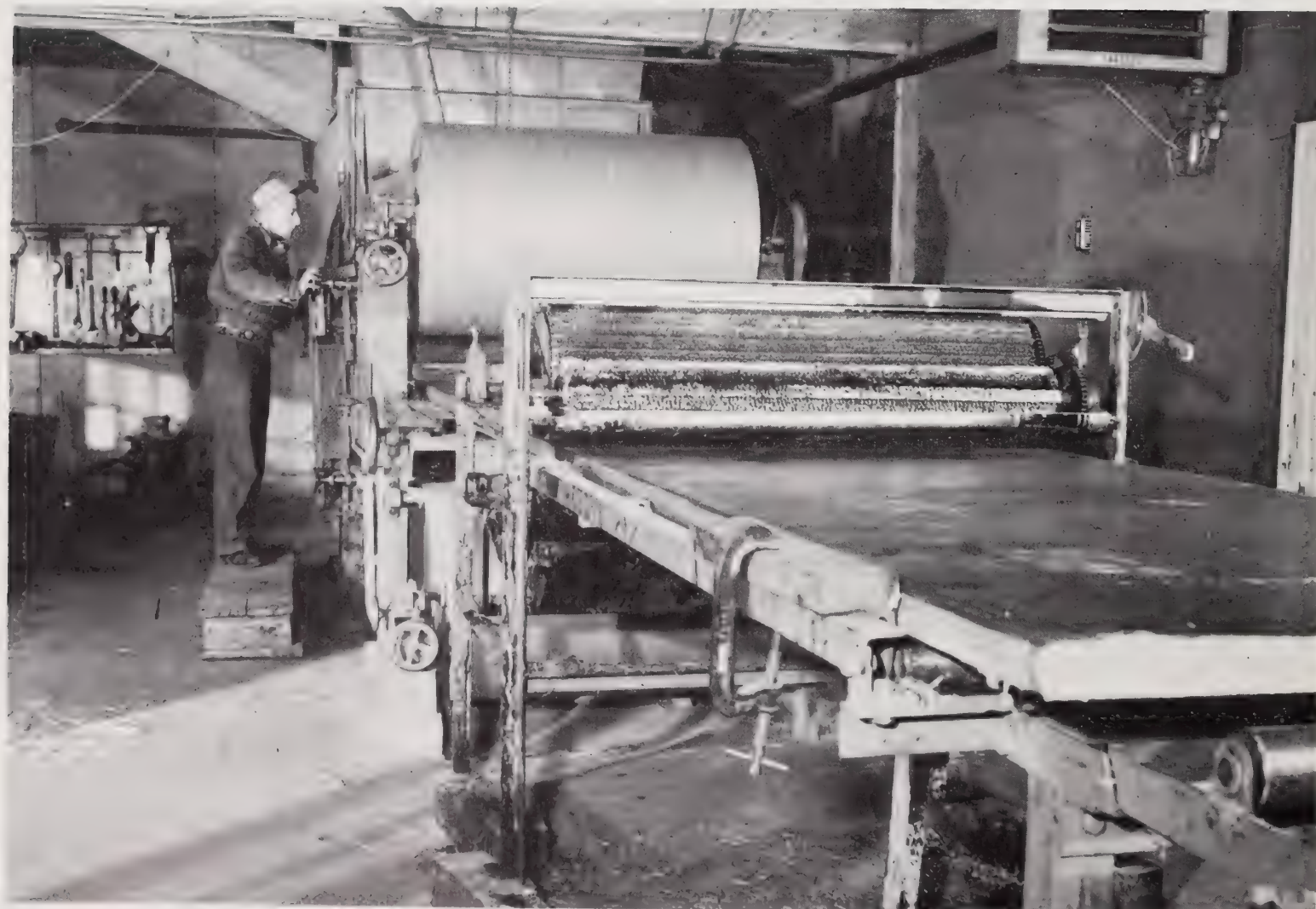
The population of Alberta increased by 50 per cent between 1946 and 1958. As might be expected, the population growth was accompanied by a vigorous programme of residential construction. The number of dwelling units completed annually rose from 6,000 in 1948 to 13,000 in 1958. With the main cities of the province doubling in size over the period, it is not surprising that most of the new building was concentrated in the major or urban areas. However, the building programme is well diffused in the province: in 1957 only 6,483 completions out of 9,948 took place in large urban centres; 3,465 dwelling units were constructed at scattered points.

In 1958 the value of building permits issued by the ten cities of the province exceeded \$200 million for the first time. The comparable figure for 1948 was \$48 million. Over the same period the value of permits issued by other municipal corporations rose from \$5 million to \$60 million. Several corporations began issuing permits during the period, and this accounts for some of the increase. However, the bulk of the increase is directly attributable to the general acceleration in construction activity. The population shift from rural to urban areas had much to do with the acceleration of building programmes.

These increases in construction activity have had marked effects on related trades and industries and on commerce generally. In manufacturing the clay brick, the cement and cement products, the sawmilling, the sash and door, the planing mills, roofing products, and the iron and steel firms, have expanded facilities, built new plants, and added new lines to their ranges

of products. Hardware merchants, furniture and appliance dealers, building material suppliers, and industrial machinery firms have all witnessed substantial increases in sales, in keeping pace. Employment in the construction industry, and all its related trades, has been high and increasing in proportion to the growth. New techniques (such as enclosing building projects in plywood sheaths or in polythene "bags") and better scheduling of phases of construction, are making the industry less seasonal and are ensuring steadier year round employment.

Obviously there is opportunity for local manufacturing of many of the products and raw materials used by the construction industry. An inspection of the table showing selected items of imports cleared at customs' ports located in Alberta, will give an idea of the minimum size of the Alberta market; and the total western market can often be estimated when necessary. In 1956, wire nails to a value of \$1.2 million; air conditioning apparatus to a value of \$1.8 million; domestic furnaces to a value of \$2.3 million; lath of iron or steel to a value of \$124,000; and wire to a value of \$6 million; were imported into western Canada; all could have been locally produced. These items are but a sampling of a much greater range of construction materials and supplies in constant use; as they exclude imports from eastern Canada and through eastern Canadian customs' ports, minimum markets are actually substantially larger.



ALBERTA GOVERNMENT PHOTOGRAPH

Insulating Wallboard is manufactured from wheat straw at Innisfail.

TABLE 35. CONSTRUCTION OF DWELLING UNITS—ALBERTA, 1948-1958

	UNDER CONSTRUCTION JAN. 1	JAN. 1 TO DEC. 31 STARTED	COMPLETED	ADJUSTMENT	UNDER CONSTRUCTION DEC. 31
JAN. 1 TO DEC. 31, 1948	2,310	9,519	6,223	- 344	5,262
JAN. 1 TO DEC. 31, 1949	5,262	8,465	9,411	- 7	4,309
JAN. 1 TO DEC. 31, 1950	4,309	8,623	7,266	- 60	5,606
JAN. 1 TO DEC. 31, 1951	5,803	5,442	6,057	- 2	5,186
JAN. 1 TO DEC. 31, 1952	4,615	7,415	6,204	+ 51	5,877
JAN. 1 TO DEC. 31, 1953	5,877	9,625	9,854	- 35	5,613
JAN. 1 TO DEC. 31, 1954	5,613	11,529	10,285	-415	6,442
JAN. 1 TO DEC. 31, 1955	6,442	10,542	10,610	-109	6,265
JAN. 1 TO DEC. 31, 1956	6,381	10,662	11,622	-240	5,181
JAN. 1 TO DEC. 31, 1957	5,181	11,182	9,948	-430	5,985
JAN. 1 TO DEC. 31, 1958	5,985	16,532	13,562	-161	8,794

TABLE 36. CONSTRUCTION OF DWELLING UNITS *

IN URBAN CENTRES OF 5,000 POPULATION OR MORE—ALBERTA, 1948-1958

	1948			1949			1950		
	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31
CALGARY	1,831	1,375	1,155	1,636	1,986	799	2,134	1,976	923
EDMONTON	2,365	1,784	1,157	2,749	2,361	1,546	3,132	2,776	1,899
LETHBRIDGE	311	226	257	403	356	302	303	453	132
MEDICINE HAT	255	258	173	106	199	80	119	117	79
RED DEER	**	**	**	**	**	**	**	**	**
CAMROSE	**	**	**	**	**	**	**	**	**
LLOYDMINSTER (PT.)	**	**	**	**	**	**	**	**	**
GRANDE PRAIRIE	**	**	**	**	**	**	**	**	**
	1951			1952			1953		
	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31
CALGARY	1,467	1,882	725	2,884	2,092	1,592	3,477	3,316	1,754
EDMONTON	2,208	2,464	1,562	3,019	2,864	1,878	4,377	3,701	2,543
LETHBRIDGE	232	260	88	313	269	132	330	320	138
MEDICINE HAT	76	90	55	156	137	66	206	155	101
RED DEER	**	**	**	161	92	98	183	198	79
CAMROSE	**	**	**	**	**	**	**	**	**
LLOYDMINSTER (PT.)	**	**	**	**	**	**	**	**	**
GRANDE PRAIRIE	**	**	**	**	**	**	**	**	**
	1954			1955			1956		
	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31
CALGARY	3,621	3,167	1,834	3,129	3,223	1,652	3,742	3,880	1,514
EDMONTON	4,037	3,873	2,756	3,843	4,076	2,523	3,203	3,350	2,321
LETHBRIDGE	437	384	185	431	445	162	282	349	89
MEDICINE HAT	226	214	114	175	193	96	227	200	95
RED DEER	253	181	151	246	276	115	131	180	60
CAMROSE	**	**	**	**	**	**	**	**	**
LLOYDMINSTER (PT.)	**	**	**	**	**	**	**	**	**
GRANDE PRAIRIE	**	**	**	**	**	**	**	**	**
	1957			1958					
	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31	JAN. 1 TO DEC. 31 STARTED	COMPLETED	UNDER CONST. DEC. 31			
CALGARY	3,425	2,919	2,011	5,655	4,923	2,749			
EDMONTON	3,320	2,957	2,662	5,805	4,702	3,723			
LETHBRIDGE	243	213	119	460	354	225			
MEDICINE HAT	266	245	115	307	284	138			
RED DEER	153	107	106	264	214	156			
CAMROSE	21	32	18	39	25	32			
LLOYDMINSTER (PT.)	9	**	9	20	16	11			
GRANDE PRAIRIE	60	42	52	151	171	31			

* A DWELLING UNIT IS DEFINED AS A STRUCTURALLY SEPARATE SET OF LIVING QUARTERS HAVING ITS OWN ENTRANCE FROM OUTSIDE OF THE BUILDING OR FROM A COMMON PASSAGE INSIDE.

** FIGURES NOT AVAILABLE.

TABLE 37. CONSTRUCTION CONTRACTS AWARDED - ALBERTA, 1947-1958

	1947			1948			1949			1950			1951			1952		
	NO.	VALUE \$		NO.	VALUE \$		NO.	VALUE \$		NO.	VALUE \$		NO.	VALUE \$		NO.	VALUE \$	
APARTMENTS	26	545,000		62	2,174,600		58	2,141,000		121	8,653,000		51	1,810,500		89	6,003,500	
RESIDENCES	2774	15,919,500		5068	33,160,200		5408	38,960,700		5745	44,229,900		3894	35,612,700		5003	49,236,600	
TOTAL RESIDENTIAL	2800	16,464,500		5130	35,334,800		5466	41,101,700		5866	52,882,900		3945	37,423,200		5092	55,240,100	
CHURCHES	13	276,000		33	679,000		35	1,159,300		34	998,400		39	1,192,500		53	1,460,200	
PUBLIC GARAGES	85	1,458,600		62	845,000		90	1,032,400		57	2,049,600		49	1,065,700		77	1,633,300	
HOSPITALS	19	1,646,000		18	4,703,100		14	4,631,600		17	2,541,800		15	3,801,400		19	2,236,500	
HOTELS AND CLUBS	41	1,397,600		57	8,550,000		67	3,194,300		75	10,082,900		75	2,741,200		70	4,185,300	
OFFICE BUILDINGS	32	846,400		55	959,500		88	3,968,700		77	3,620,900		79	3,398,500		109	3,524,900	
PUBLIC BUILDINGS	30	2,502,900		34	990,100		46	3,184,800		49	5,709,700		83	21,569,300		80	28,610,300	
SCHOOLS	23	1,871,700		72	8,278,900		73	3,437,100		86	5,911,200		119	11,991,100		68	7,011,100	
STORES	189	1,935,700		201	3,007,600		250	4,650,600		177	3,034,700		112	2,697,600		142	3,206,900	
THEATRES	7	102,000		5	127,000		14	2,493,000		9	942,000		10	391,500		7	881,000	
WAREHOUSES	100	1,812,800		108	1,718,200		139	4,044,800		158	5,025,200		143	4,806,200		135	4,215,400	
TOTAL BUSINESS	539	13,849,700		645	29,858,400		816	31,796,600		739	39,916,400		724	53,655,000		760	56,964,900	
TOTAL INDUSTRIAL	120	10,597,000		120	1,356,400		103	9,956,900		107	23,402,900		75	53,207,700		111	31,577,300	
BRIDGES	2	62,000		1	534,000		6	345,000		4	291,700		28	1,262,600		19	1,249,000	
DAMS AND WHARVES	1	25,000					1	20,900		1	57,000		19	3,348,500		4	670,400	
SEWERS AND WATERMAINS	9	932,400		14	932,100		29	1,882,100		32	2,289,900		59	4,843,900		63	6,613,500	
ROADS AND STREETS	42	5,057,500		24	5,943,300		26	2,772,600		77	11,544,000		115	16,835,300		69	15,874,500	
POWER AND COMMUNICATION																		
GENERAL ENGINEERING	5	437,000		2	112,700		18	16,504,800		35	4,493,700		54	12,498,900		51	63,001,600	
TOTAL ENGINEERING	59	6,513,900		41	7,522,100		80	21,525,400		149	18,676,300		275	38,789,200		206	87,409,000	
GRAND TOTAL	3518	47,425,100		5936	74,071,700		6465	104,380,600		6861	134,878,500		5019	183,075,100		6169	231,191,300	

CONSTRUCTION CONTRACTS AWARDED - ALBERTA, 1947-1958

1953			1954			1955			1956			1957			1958		
	NO.	VALUE \$		NO.	VALUE \$		NO.	VALUE \$		NO.	VALUE \$		NO.	VALUE \$		NO.	VALUE \$
APARTMENTS	165	13,588,300		57	4,006,000		57	2,456,100		90	3,097,500		107	4,142,400		159	9,898,700
RESIDENCES	6660	67,394,300		5591	54,589,300		7436	71,895,000		7139	79,851,600		3826	57,197,800		8190	89,793,200
TOTAL RESIDENTIAL -----	6825	80,982,600		5648	58,595,300		7493	74,351,100		7229	82,949,100		3933	61,340,200		8,349	99,691,900
CHURCHES	60	2,834,200		50	3,042,200		50	3,962,600		35	1,772,700		45	1,717,400		54	2,786,500
PUBLIC GARAGES	70	1,602,900		55	1,480,800		109	2,201,400		119	2,783,800		63	1,988,600		74	1,889,400
HOSPITALS	26	5,620,200		30	9,411,400		13	3,143,300		24	5,429,200		19	4,215,600		18	7,881,000
HOTELS AND CLUBS	73	3,148,400		49	3,778,200		71	4,650,300		61	5,881,800		75	5,191,000		105	6,129,500
OFFICE BUILDINGS	142	8,079,300		107	9,994,100		130	10,447,600		160	22,052,200		117	7,959,800		132	15,781,500
PUBLIC BUILDINGS	105	16,123,800		101	24,944,000		52	12,477,900		43	7,944,400		15	2,874,300		40	5,766,800
SCHOOLS	96	12,593,000		143	16,362,500		108	13,813,300		203	25,936,500		131	26,625,200		125	22,035,300
STORES	130	3,292,500		124	9,532,600		131	6,470,400		162	11,059,600		87	4,908,600		171	13,018,100
THEATRES	8	430,000		10	380,500		7	551,500		2	145,000		1	92,000		1	60,000
WAREHOUSES	165	6,389,400		138	7,475,100		115	7,626,700		175	8,528,100		178	8,945,000		156	7,654,400
TOTAL BUSINESS -----	875	60,113,700		807	86,401,400		786	65,345,000		984	91,533,300		731	64,517,500		876	83,002,500
TOTAL INDUSTRIAL -----	123	9,836,600		87	24,476,200		76	39,611,800		124	21,101,600		67	7,742,500		87	5,319,900
BRIDGES	19	2,998,900		25	2,866,000		13	718,100		53	4,403,400		29	5,198,600		12	3,863,900
DAMS AND WHARVES	6	915,500		15	2,080,100		8	643,900		12	2,809,100		4	771,400		5	396,400
SEWERS AND WATERMAINS	75	9,543,400		80	7,776,000		57	7,301,400		82	14,438,600		67	5,299,100		44	4,413,400
ROADS AND STREETS	189	20,692,900		87	25,032,100		88	20,330,300		114	36,330,800		78	28,313,000		102	24,503,900
POWER AND COMMUNICATION										61	12,442,800		57	1,751,900		43	3,680,200
GENERAL ENGINEERING	42	29,927,300		72	11,977,900		111	22,008,100		35	9,604,300		32	4,295,800		57	32,873,300
TOTAL ENGINEERING -----	331	64,078,000		279	49,732,100		277	51,001,800		357	80,029,000		267	45,629,800		253	69,731,100
GRAND TOTAL -----	8154	215,010,900		6821	219,205,000		8632	230,309,700		8694	275,613,000		4998	179,230,000		9575	257,745,400

SOURCE --- MACLEAN BUILDING REPORTS LTD.

TABLE 38. VALUE OF CONSTRUCTION WORK PERFORMED—ALBERTA, 1951-1958

	1951 VALUE \$ '000	1952 VALUE \$ '000	1953 VALUE \$ '000	1954 VALUE \$ '000
TOTAL CONSTRUCTION —	379,256	479,232	556,008	550,258
TOTAL BUILDING CONSTRUCTION	203,990	235,413	282,058	287,976
RESIDENTIAL	77,900	87,000	123,000	140,200
INDUSTRIAL	30,426	44,202	27,390	16,722
COMMERCIAL	54,448	62,032	55,457	63,416
INSTITUTIONAL	28,736	27,492	30,857	30,977
OTHERS	12,480	14,687	45,354	36,661
TOTAL ENGINEERING	175,266	243,819	273,950	262,282
ROAD, HIGHWAYS AND BRIDGE CONSTRUCTION	48,052	54,555	65,328	60,766
WATERWORKS AND SEWAGE SYSTEMS	13,735	24,853	19,714	19,167
DAMS AND IRRIGATION	8,053	13,190	13,963	7,383
ELECTRIC POWER CONSTRUCTION	11,126	15,312	12,132	12,814
RAILWAY, TELEPHONE AND TELEGRAPH CONSTRUCTION	23,819	28,912	26,632	29,167
GAS AND OIL FACILITIES	60,831	103,319	115,514	113,221
OTHER ENGINEERING CONSTRUCTION	9,650	3,678	20,667	19,764
SALARIES AND WAGES	122,746	141,164	177,422	172,931
COST OF MATERIALS USED	199,068	283,610	264,628	247,360
AVERAGE NUMBER OF EMPLOYEES	NO. 46,424	44,660	50,184	50,934
			(1)	(2)
	1955 VALUE \$ '000	1956 VALUE \$ '000	1957 VALUE \$ '000	1958 VALUE \$ '000
TOTAL CONSTRUCTION —	623,605	725,556	713,174	804,710
TOTAL BUILDING CONSTRUCTION	300,476	345,362	325,231	344,491
RESIDENTIAL	140,100	155,600	143,800	162,400
INDUSTRIAL	23,975	37,297	20,422	17,891
COMMERCIAL	66,278	60,844	72,134	62,863
INSTITUTIONAL	36,811	41,976	52,810	64,293
OTHERS	33,312	49,645	36,065	37,044
TOTAL ENGINEERING	323,129	380,194	387,943	460,219
ROAD, HIGHWAYS AND BRIDGE CONSTRUCTION	69,219	74,148	86,217	99,009
WATERWORKS AND SEWAGE SYSTEMS	19,982	28,745	22,766	26,466
DAMS AND IRRIGATION	7,784	9,252	8,119	5,667
ELECTRIC POWER CONSTRUCTION	17,578	21,483	19,403	18,831
RAILWAY, TELEPHONE AND TELEGRAPH CONSTRUCTION	25,527	29,980	33,689	33,996
GAS AND OIL FACILITIES	166,822	199,603	189,573	246,177
OTHER ENGINEERING CONSTRUCTION	16,217	16,983	28,176	30,073
SALARIES AND WAGES	187,267	223,992	221,744	250,599
COST OF MATERIALS USED	284,492	322,347	312,631	353,975
AVERAGE NUMBER OF EMPLOYEES	NO. 52,641	59,688	60,170	67,923

(1) PRELIMINARY ACTUAL

(2) INTENTIONS

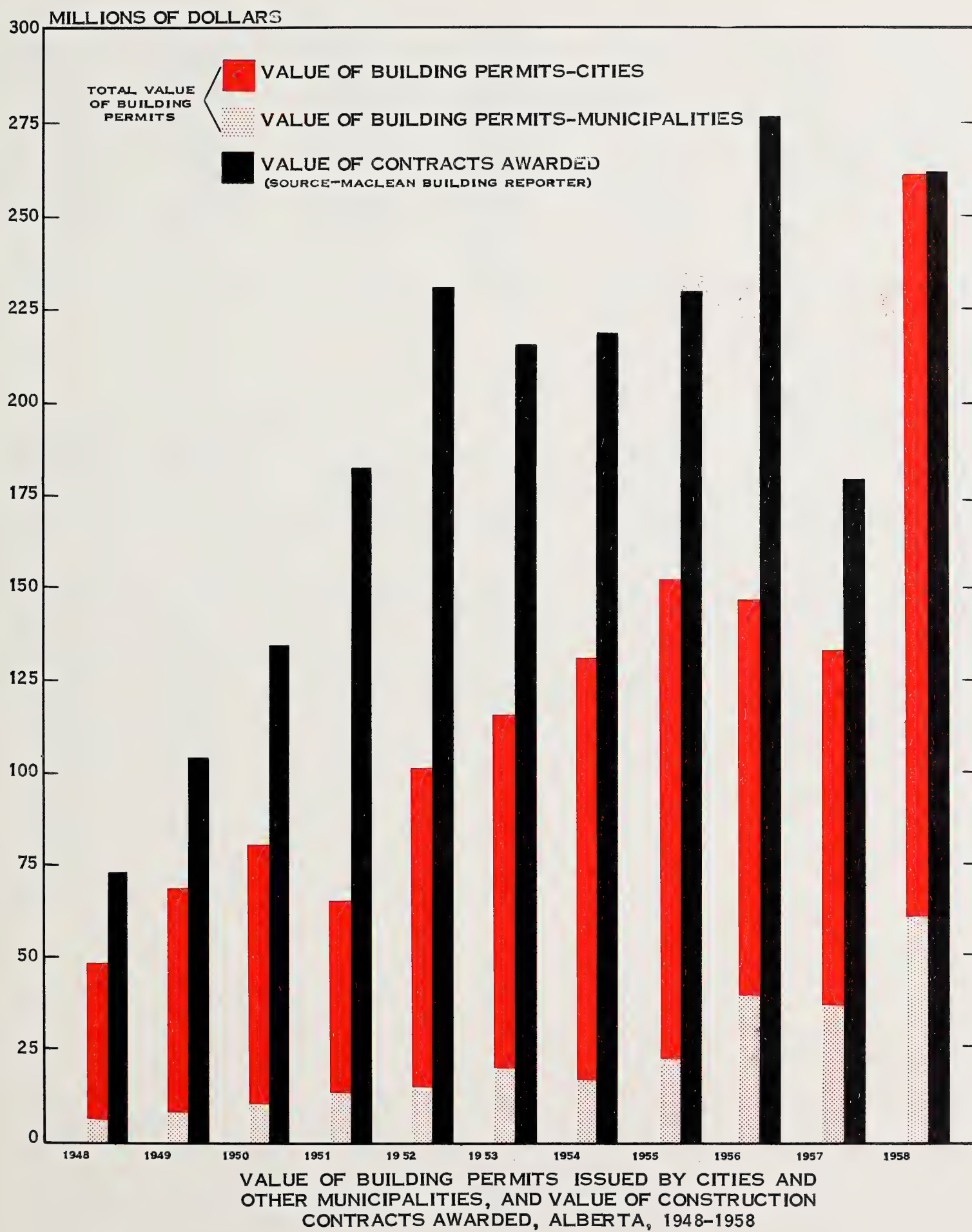


TABLE 39. VALUE OF BUILDING PERMITS ISSUED BY CITIES

	1948 \$	1949 \$	1950 \$	1951 \$
CITIES (10)	48,869,710	70,640,214	81,979,022	68,452,846
CALGARY	13,950,205	21,881,928	25,864,339	22,361,790
CAMROSE	418,526	339,980	511,680	936,530
DRUMHELLER	301,555	134,390	345,540	134,085
EDMONTON	27,123,329	40,050,063	46,579,372	36,394,684
GRANDE PRAIRIE	237,160	680,239	262,273	580,680
LETHBRIDGE	4,464,234	4,665,660	4,479,525	4,820,675
LLOYDMINSTER	-	-	642,963	498,240
MEDICINE HAT	942,311	971,274	1,259,380	1,569,625
RED DEER	1,212,590	1,558,300	1,763,075	1,002,590
WETASKIWIN	219,800	358,380	270,875	153,947
OTHER MUNICIPALITIES (164)	4,667,104	5,905,146	7,635,634	8,914,054
ACME	-	-	-	-
AIRDRIE	-	-	-	-
ALBERTA BEACH (S.V.)**	-	-	-	-
ALIX	-	-	-	-
ANDREW	-	-	-	-
ARROWWOOD	-	-	-	-
ATHABASCA	-	-	112,200	319,200
BARRHEAD	51,840	101,910	147,450	66,700
BASHAW	-	-	550	18,500
BASSANO	13,340	16,415	14,250	8,900
BEAVERLODGE	11,300	117,950	42,600	103,000
BEISEKER	-	-	-	-
BENTLEY	-	-	-	-
BERWYN	-	-	-	-
BEVERLY	-	162,000	269,500	278,100
BLACK DIAMOND	1,000	1,200	3,950	13,550
BLACKFALDS	-	-	-	-
BLAIRMORE	15,375	18,655	16,930	23,970
BONNYVILLE	171,900	227,250	271,700	236,200
BOWDEN	-	-	-	-
BOW ISLAND	-	-	36,725	33,300
BOWNESS	-	-	-	-
BROOKS	66,440	58,750	102,700	122,250
BRUDERHEIM	-	-	-	-
CALMAR	-	-	-	-
CARDSTON	68,600	32,580	154,550	223,950
CAROLINE	-	-	-	-
CARSTAIRS	-	-	10,500	8,000
CASTOR	27,550	6,715	32,200	29,000
CAYLEY	-	-	-	-
CHAMPION	-	-	-	-
CHAUVIN	-	-	-	-
CHIPMAN	-	-	-	-
CLARESHOLM	137,900	106,300	181,950	194,300
CLIVE	-	-	-	-
COALDALE	-	-	-	-
COCHRANE	-	-	-	-
COLD LAKE	-	-	-	-
COLEMAN	38,640	33,830	27,830	15,649
CONSORT	-	-	-	-
CORONATION	16,800	46,300	22,000	18,500
COWLEY	-	-	-	-
CROSSFIELD	-	-	14,350	1,550
DAYSLAND	10,500	18,300	5,550	-
DELBURNE	-	-	-	-
DERWENT	-	-	-	-
DEVON	-	-	21,600	107,650
DIDSBURY	45,150	95,100	52,450	48,200
DUCHESS	-	-	-	-
EAGLE M.D.	-	-	-	-

AND OTHER MUNICIPALITIES - ALBERTA, 1948-1958

1952 \$	1953 \$	1954 \$	1955 \$	1956 \$	1957 \$	1958 \$
102,946,094	117,223,204	134,099,954	154,673,807	149,629,903	137,798,352	196,574,486
52,796,622	42,121,154	46,729,742	58,896,348	61,029,269	56,051,487	101,564,471
1,152,168	2,012,448	1,550,980	1,542,245	941,670	1,277,298	1,247,250
287,740	133,045	311,773	238,448	174,970	183,945	212,675
37,066,526	55,023,816	68,329,716	58,718,696	69,406,035	64,344,758	72,517,144
786,789	526,687	522,152	1,745,097	2,101,609	2,455,040	1,495,749
4,741,855	7,429,441	9,028,681	6,356,271	6,999,719	4,931,459	7,784,009
900,513	851,303	807,181	373,404	342,390	876,639	871,080
2,373,080	3,960,220	2,418,349	22,266,810	4,472,560	3,691,170	5,611,825
2,275,801	3,885,250	3,780,350	4,166,763	3,523,590	3,231,731	4,721,733
565,000	1,279,840	621,030	369,725	638,091	754,825	548,550
10,332,310	18,367,209	13,729,802	21,780,480	38,586,280	36,346,050	61,872,459
-	-	-	1,800	-	20,200	314,200
-	-	-	40,300	11,400	215,820	42,000
-	-	-	2,400	29,920	16,945	40,570
-	-	-	600	27,400	55,175	26,600
-	-	-	13,550	1,200	137,800	66,585
-	-	-	-	4,850	12,000	1,500
91,900	192,400	541,300	97,050	111,400	183,439	147,965
33,000	94,950	157,500	169,650	159,540	187,850	191,125
15,900	6,800	25,100	4,500	37,650	55,790	46,480
22,100	13,350	20,400	164,205	229,280	49,000	456,600
53,300	32,800	34,200	64,764	117,000	125,325	125,100
-	-	-	82,500	56,500	103,900	-
-	-	-	-	47,995	8,800	275,500
-	-	-	-	182,910	20,500	21,200
438,150	1,165,951	702,440	1,318,790	2,047,567	2,698,100	3,622,850
1,850	7,550	111,630	13,250	9,200	71,300	36,750
-	-	-	25,300	83,920	91,750	267,750
105,400	11,575	11,650	2,950	9,700	300	15,350
168,800	438,400	604,500	119,500	67,800	103,350	184,825
-	-	-	2,350	261,925	36,075	7,650
21,820	352,750	160,000	134,800	131,510	78,100	402,732
-	-	-	1,021,159	1,658,545	1,806,859	2,010,403
232,000	231,375	131,350	169,883	116,330	111,379	435,300
-	-	-	8,200	2,070	-	20,100
-	-	-	-	22,650	26,425	4,710
133,250	47,600	71,100	130,530	73,150	534,100	517,568
-	-	-	2,975	2,340	3,500	3,400
12,050	14,200	28,500	12,500	61,300	3,000	46,000
29,700	202,150	153,000	33,300	88,700	103,375	81,250
-	-	-	-	15,000	-	400
-	-	-	4,900	3,000	30,600	880
-	-	-	1,500	24,500	-	16,000
-	-	-	450	5,500	97,000	17,500
278,750	329,550	250,100	295,800	428,500	178,500	59,800
-	-	-	-	2,000	-	-
-	-	-	45,600	92,145	232,020	187,000
-	-	-	134,043	22,200	36,650	61,708
-	-	-	10,470	47,600	521,940	74,125
23,360	31,460	7,300	2,900	3,150	40,597	35,000
-	-	-	-	6,000	79,200	212,700
19,000	9,000	11,000	7,500	27,000	60,000	56,500
-	-	-	-	-	18,000	-
13,000	16,000	13,000	8,800	23,000	1,500	6,500
46,600	74,600	87,680	19,865	26,225	6,695	11,024
-	-	-	4,850	13,675	16,830	21,875
-	-	-	8,900	14,000	3,600	33,000
70,600	56,710	41,050	50,450	29,400	17,750	-
94,850	359,000	11,970	46,550	120,025	16,090	69,800
-	-	-	127,500	-	-	-
-	-	-	-	-	12,500	600

OTHER MUNICIPALITIES (CONTINUED)

	1948 \$	1949 \$	1950 \$	1951 \$
ECKVILLE	-	-	-	-
EDGERTON	-	-	-	-
EDSON	44,680	154,400	329,750	102,000
ELK POINT	-	-	30,000	19,100
ELNORA	-	-	-	-
EVANSBURG	-	-	-	-
FAIRVIEW	-	211,950	69,270	35,290
FALHER	-	-	-	8,627
FOOTHILLS M.D.	-	-	-	-
FORESTBURG	-	-	-	-
FOREST LAWN	52,500	96,845	116,400	175,000
FORT MACLEOD	66,875	44,050	201,750	191,150
FORT SASKATCHEWAN	1,000	63,850	42,400	21,450
FRANK	-	-	-	-
GIROUXVILLE	-	-	-	-
GLEICHEN	9,000	2,700	1,200	7,900
GRIMSHAW	-	-	-	-
GULL LAKE (S.V.)	-	-	-	-
HAIRY HILL	-	-	-	-
HANNA	60,000	64,500	35,475	47,125
HARDISTY	7,100	30,502	7,900	31,000
HAY LAKES	-	-	-	-
HIGH PRAIRIE	-	-	89,840	62,900
HIGH RIVER	181,892	169,150	248,101	241,025
HINES CREEK	-	-	-	-
HINTON	-	-	-	-
HOLDEN	-	-	20,500	27,000
HUGHENDEN	-	-	-	-
HYTHE	-	-	-	-
I.D. 109	-	-	-	-
INNISFAIL	142,000	134,000	118,920	65,125
INNISFREE	-	-	-	-
IRMA	-	-	-	-
JASPER PLACE	-	-	731,525	1,114,358
KILLAM	-	-	7,000	7,500
KINUSO	-	-	-	-
KITSCOTY	-	-	-	-
LAC LA BICHE	12,500	25,000	37,000	-
LACOMBE	434,200	512,300	197,800	209,775
LAMONT	30,550	125,450	146,250	29,750
LEDUC	232,335	105,100	105,450	156,850
LEDUC M.D.	-	-	-	-
MCLENNAN	-	-	11,740	117,525
MAGRATH	34,150	26,050	163,050	28,560
MA-ME-O-BEACH (S.V.)	-	-	-	-
MANNVILLE	-	-	12,480	21,025
MARWAYNE	-	-	-	-
MAYERTHORPE	-	-	-	-
MILK RIVER	-	-	8,000	44,650
MILLET	-	-	-	-
MINBURN	-	-	-	-
MIRROR	-	-	45,300	182,000
MORINVILLE	31,000	52,600	19,350	30,000
MORRIN	-	-	-	-
MOUNTAIN VIEW M.D.	-	-	-	-
MUNDARE	20,500	9,000	16,325	24,830
MYRNAM	-	-	-	-
NOBLEFORD	-	-	-	-
OKOTOKS	67,900	55,900	8,150	20,225
OLDS	321,700	111,455	87,075	333,920
ONOWAY	-	-	-	-
OYEN	6,000	12,000	-	-
PEACE RIVER	-	171,000	207,800	495,900
PICTURE BUTTE	-	-	-	-
PINCHER CREEK	257,200	61,334	51,900	31,000

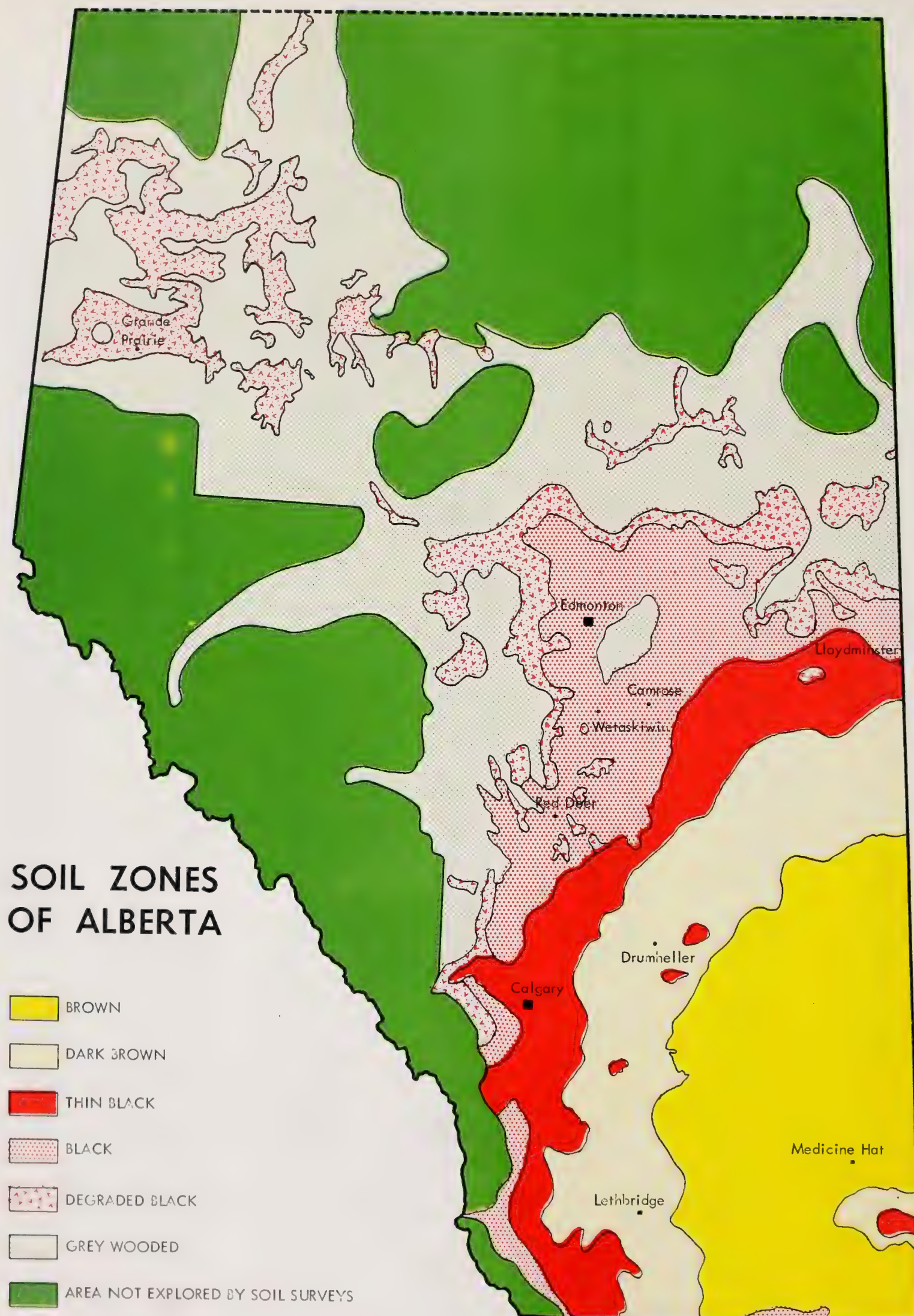
1952 \$	1953 \$	1954 \$	1955 \$	1956 \$	1957 \$	1958 \$
-	-	-	35,850	9,450	17,105	353,610
			300	8,000	7,475	4,000
366,375	404,850	604,160	970,811	563,550	919,259	665,731
32,200	68,800	27,700	28,650	256,000	61,250	49,000
-	-	-	11,000	-	1,150	-
-	-	-	69,000	136,300	139,700	16,160
134,605	107,000	105,050	230,150	195,950	64,760	309,900
76,000	8,000	49,716	13,900	267,000	23,350	14,550
-	-	-	80,000	150,100	261,150	681,275
-	-	-	46,500	207,400	35,200	177,000
297,100	575,300	317,521	453,050	1,394,801	2,060,562	6,729,140
99,450	237,775	72,365	88,600	89,425	828,173	209,685
590,900	841,623	896,137	1,603,036	531,160	709,700	615,341
-	-	-	-	-	-	32,200
-	-	-	17,500	52,750	200	80,000
7,170	27,700	800	13,500	5,500	7,680	24,000
-	-	-	8,500	82,416	61,525	43,300
-	-	-	2,850	2,050	10,000	12,600
-	-	-	-	9,000	700	-
81,775	297,900	153,240	210,750	557,225	474,700	167,063
92,950	7,500	21,200	13,600	6,300	31,100	4,140
-	-	-	-	47,000	5,500	2,800
74,700	307,080	364,420	230,070	489,950	86,390	182,693
130,245	484,000	86,308	183,762	78,075	102,800	768,150
-	-	-	-	31,200	54,500	35,500
-	-	-	-	5,752,340	1,170,880	1,023,565
49,600	84,100	24,250	25,900	237,009	33,990	40,500
-	-	-	-	6,000	2,108	5,000
-	-	-	500	18,250	22,800	17,100
-	-	-	-	-	188,750	951,189
46,950	131,990	100,025	157,835	77,500	183,035	732,020
-	-	-	123,500	13,400	100,500	-
-	-	-	11,000	10,000	101,400	30,500
1,041,250	1,884,825	1,024,204	2,362,350	2,745,350	4,303,340	10,862,949
29,000	81,500	18,000	25,500	16,200	4,500	61,100
-	-	-	1,200	14,000	4,500	1,750
-	-	-	4,200	193,942	35,650	48,100
73,900	244,060	461,650	378,000	201,945	388,300	235,455
253,450	358,975	691,950	260,495	212,380	432,793	482,385
12,250	51,700	57,255	22,500	23,950	341,830	28,300
234,200	107,225	87,380	90,455	295,073	296,750	410,371
-	-	-	135,200	219,120	974,312	2,494,750
30,490	15,495	37,770	19,345	110,725	79,700	48,095
90,996	54,325	93,750	22,000	166,000	58,150	13,750
-	-	-	13,450	13,150	4,625	-
133,210	35,245	55,590	51,182	51,375	158,650	37,425
-	-	-	8,400	17,900	12,800	41,326
-	-	-	19,800	25,325	26,175	34,500
35,700	27,787	94,750	98,000	40,350	240,150	112,850
-	-	-	300	18,700	9,200	13,300
-	-	-	-	15,000	-	-
41,300	16,100	11,500	7,300	-	-	-
32,550	44,300	32,900	10,350	16,250	299,567	84,625
-	-	-	10,200	-	-	5,000
-	-	-	22,000	128,000	22,725	27,650
63,200	13,685	16,800	9,650	10,050	19,100	53,550
-	-	-	1,600	4,250	13,500	-
-	-	-	10,500	20,000	10,000	62,020
23,150	29,355	20,250	54,449	103,350	30,440	115,985
221,900	138,530	99,325	109,050	587,000	350,800	501,740
-	-	-	24,200	3,500	6,000	5,000
4,400	19,500	69,300	202,000	89,600	25,400	142,900
699,300	260,500	92,200	437,675	214,719	392,200	410,825
-	-	-	-	37,800	37,900	111,150
85,550	216,075	24,600	92,500	144,200	313,900	551,061

OTHER MUNICIPALITIES (CONTINUED)

	1948	1949	1950	1951
	\$	\$	\$	\$
PONOKA	127,365	462,722	320,825	392,450
PONOKA COUNTY	-	-	-	-
PROVOST	16,000	101,600	8,200	9,700
RADWAY	-	-	-	-
RAYMOND	46,500	80,000	72,000	153,500
REDCLIFF	64,225	32,980	59,425	30,105
REDWATER	-	-	150,000	13,000
RIMBEY	-	-	27,200	32,550
ROCKY MOUNTAIN HOUSE	28,450	126,293	24,275	47,755
ROSEMARY	-	-	-	-
RYCROFT	-	-	-	-
RYLEY	-	-	-	-
ST. ALBERT	-	-	15,000	6,000
ST. PAUL	109,300	258,600	99,800	25,500
SANGUDO	-	-	-	-
SEBA BEACH (S.V.)	-	-	-	-
SEGEWICK	-	-	8,000	10,500
SMOKY LAKE	23,500	21,000	18,000	50
SPIRIT RIVER	53,800	5,750	24,400	10,600
STANDARD	-	-	-	-
STAVELY	18,600	700	6,500	21,500
STETTLER	410,860	155,300	392,058	306,100
STIRLING	-	-	-	19,200
STONY PLAIN	170,000	67,000	68,600	60,300
STONY PLAIN M.D.	-	-	-	-
STRATHCONA M.D.	-	-	-	-
STRATHMORE	-	-	45,150	211,700
STURGEON RIVER M.D.	-	-	-	-
SUNDRE	-	-	-	-
SYLVAN LAKE	93,850	96,395	104,400	24,325
TABER	-	450,000	391,150	258,200
THORHILD	-	-	-	-
THORSBY	-	-	-	-
THREE HILLS	77,840	77,100	10,850	145,175
TOFIELD	11,700	27,000	11,000	29,525
TROCHU	19,000	22,000	56,600	57,600
TWO HILLS	-	-	-	-
VEGREVILLE	191,042	211,405	508,525	373,450
VERMILION	191,920	93,760	101,850	163,600
VERMILION RIVER M.D.	-	-	-	-
VIKING	54,435	36,900	80,650	140,710
VILNA	-	-	-	-
VULCAN	33,300	96,300	69,875	69,830
WAINWRIGHT	236,000	199,950	112,965	452,600
WARBURG	-	-	-	-
WASKATENAU	-	-	-	-
WEMBLEY	-	-	-	-
WESTLOCK	-	-	139,100	95,500
WILDWOOD	-	-	-	-

* INCLUDES MUNICIPALITIES WHICH REQUIRE BUILDING PERMITS.
(S.V.) SUMMER VILLAGE.

1952 \$	1953 \$	1954 \$	1955 \$	1956 \$	1957 \$	1958 \$
344,060	670,660	469,300	451,162	547,605	616,165	385,920
-	-	-	4,000	273,500	25,850	15,000
18,500	56,015	178,950	80,950	166,450	56,400	71,700
-	-	-	650	20,900	9,600	3,200
26,500	266,760	61,300	99,400	15,800	104,500	54,500
35,975	242,225	210,275	126,100	160,790	232,070	203,650
36,975	90,930	24,400	18,350	96,400	14,500	42,150
8,025	229,725	40,325	99,400	99,725	385,925	79,200
43,179	323,895	177,450	172,960	165,549	144,340	162,325
-	-	-	350	-	-	477,150
-	-	-	3,800	45,500	36,890	65,700
-	-	-	-	150,996	11,375	54,050
64,500	81,950	99,725	426,273	269,750	531,200	2,666,550
95,725	320,300	125,400	117,085	412,050	426,800	1,530,000
-	-	-	2,600	16,875	-	8,500
-	-	-	3,250	9,950	7,600	1,850
42,700	97,000	33,100	21,700	1,350	2,000	104,500
13,200	61,200	32,050	20,300	15,000	41,450	62,300
18,500	75,200	18,150	208,000	37,700	66,750	79,780
-	-	-	10,000	17,950	20,000	20,700
12,500	8,860	8,600	11,850	166,945	33,767	19,300
392,050	1,174,305	683,090	406,546	816,155	595,850	425,766
-	-	-	17,000	3,175	189,500	17,100
133,000	176,200	277,550	118,630	94,900	153,800	336,300
-	-	-	1,685,655	955,260	1,170,675	269,100
-	-	-	1,794,090	6,274,427	3,161,858	8,098,345
53,500	71,500	-	122,000	20,000	51,200	148,500
-	-	-	128,100	1,180,900	235,223	605,065
-	-	-	-	62,100	81,450	40,300
24,000	41,750	50,450	56,200	57,600	53,365	342,290
418,700	1,201,790	945,236	295,420	546,780	206,275	371,257
-	-	-	9,000	41,200	12,850	253,750
-	-	-	14,000	10,000	304,730	48,450
45,096	163,795	102,900	193,950	260,420	35,985	182,800
20,900	89,200	137,500	67,000	287,425	144,500	57,600
16,500	-	21,000	32,350	18,000	-	94,850
-	-	-	227,160	5,000	6,200	143,500
320,095	780,195	581,090	218,270	299,850	464,080	664,325
274,994	184,225	95,065	166,890	79,610	555,880	499,779
-	-	-	421,400	92,250	73,610	75,500
123,565	141,625	83,260	79,250	297,269	76,300	87,325
-	-	-	21,800	11,300	3,926	21,800
117,350	501,770	74,650	38,500	101,078	161,100	243,000
407,075	339,830	120,150	96,540	633,900	649,330	997,393
-	-	-	16,400	20,050	18,600	117,140
-	-	-	14,500	32,019	19,563	33,500
-	-	-	12,350	4,100	30,100	88,050
133,950	105,333	92,000	103,000	100,750	94,500	237,450
-	-	-	5,450	9,000	138,440	12,100



AGRICULTURE

According to the 1956 census there are 46 million acres of occupied farm land in Alberta. About 24 million acres are improved and utilized as follows: under crops, 15.0 million acres; pasture, 1.3 million; summerfallow, 7.1 million; and other, 0.5 million acres.

It is estimated that 68 million acres of land in Alberta could be utilized for agricultural purposes. A total of 30 million acres are classed as good to fair arable land and 10 million as fair to poor arable. The remainder may be improved by agricultural techniques and utilized as permanent pasture or hay meadow.

The further development of Alberta's agricultural resources will depend largely on the expansion of markets and on changes in the technique of farming. Growth could possibly advance on two fronts: first, the area in occupied farms may increase; second, and more likely occurrence, the land presently exploited may be more intensively farmed.

In the process of progressive development of Alberta, it is not likely that the general pattern of agriculture already established will change radically. Farming systems and practices now in effect are reasonably well adapted to conditions of soil and climate. The south is largely devoted to cattle ranching and wheat growing on a specialty basis. Irrigation in southern Alberta, however, has produced the effect of changing the natural pattern of production of the region.

In central areas, mixed farming predominates with live stock receipts providing the greater part of farm cash income. In parts of the Edmonton and Calgary milksheds over 40 per cent of the total farm live stock revenue accrues from the sale of dairy products.

In the Peace River country the production of crops for cash sale is important. In addition the live stock production is increasing. In 1951, farmers in the southwest portion of the area obtained 45.3 per cent of total farm income from cattle; 14.0 per cent from hogs; and 10.0 per cent from dairying.

Agriculture is directly related to industry in Alberta. Plants which process farm products (meat packing, flour milling, dairy products, vegetables, and sugar beets) are all well established.

Possibilities for further industrial development in agriculture, or based on the agricultural industry, are many. Much depends upon future changes in the size of the market, population increases, and food preferences. Higher incomes increase the demand for meats, vegetables and fruits, but reduce the consumption of cereal products. The development of a larger market in Western Canada will permit expansion in the production, processing and marketing of crops in Alberta. The enlargement of the market for such articles as canned vegetables, may eventually increase the competitive advantage of Alberta producers so as to exclude their importation from the east.

Improvements in refrigerated transportation has increased the proportion of the live stock processed in Alberta. This trend will continue. Moreover, significant increases in Canada's meat requirements are forecast. Alberta's undeveloped potential to produce live stock is substantial. Consequently, the expansion of meat packing operations in the province can be predicted with confidence.

Flour milling, however, will increase more slowly in relation to the growth of regional population. A growing home market may permit the expansion of facilities for the production of breakfast cereals, biscuits, cake mixes.

Establishments processing dairy and poultry products, honey, and so forth, will grow at a rate required to serve a larger Alberta population. Population increases are likely to be to a larger extent confined to urban areas. The number of centres requiring milk pasteurizing and distributing

plants will increase. The recent increase in the per capita consumption of ice cream does not appear to be entirely spent. Prediction in respect to the production of butter and cheese is more uncertain. Assuming the quality of butter substitutes remains unchanged, butter-making will increase with the population.

The successful incubation of chicks and poultz artificially and the practical application of chick-sexing, completed the transfer of the hatching function from the farm to a service industry. At the consumer end of the poultry industry, the economies of large scale operations and labor specialization in poultry dressing plants associated with consumer preference for oven-ready or cooked poultry meat, has led to the growth of secondary industry based on poultry raising.

It might also be mentioned that feed manufacturers, a group hardly existent before the war, now provide important services to the poultry industry. Having regard for the rapid growth of the services discussed, it is inevitable that expansion connected with agricultural industry will ensue.

New crops and related industrial opportunities are most likely to be introduced in the south where higher summer temperatures, longer growing seasons, and irrigation make possible the production of many crops that cannot be grown successfully in central and northern areas.

Commercial mustard, white spring wheat, safflower and sunflower seeds are grown under contract in Alberta. The wheat is milled into cake and pastry flours in the province. Facilities for processing the other crops mentioned above, are in course of construction. The same facilities will extract oil from rape seed which is currently being produced in most parts of the province. Success in this venture would constitute a major triumph of modern agriculture in Alberta.

Ample soils of suitable texture are available in irrigated areas for the production of vegetable crops. Sugar beet production is a great success. An increasing variety and volume of other vegetables are produced for immediate consumption and for canning, but well established "outside" supplies provide strong competition. Nevertheless, Alberta will soon achieve sufficient volume to effect the necessary economies in the production, processing and marketing of crops concerned. The development of a suitable canning tomato adapted to the area would contribute more than any single factor toward increasing the volume of canned vegetables produced.

Problems associated with cooling and processing vegetables for the fresh trade are currently receiving attention. In recent years improved storage has extended the marketing season. There is an active interest in the development of plastic plant covers that may extend the normal growing season for tender vegetables into October. In the case of some vegetables the use of covers in the spring may increase production and decrease the cost per unit.

Horticultural practice under glass is most extensively developed at Medicine Hat. Flowers, cucumbers and tomatoes are the main crops. The control of nematodes is still a problem but financial returns appear to be satisfactory. However, the production of cucumbers and tomatoes is not increasing at Medicine Hat or expanding to other points. Tomatoes were at one time quite widely grown under glass in the province. Establishments devoted to this purpose have deteriorated and no attempt yet has been made to replace them.

The industrial structure of the province is being altered by the construction of a plant in Lethbridge to be used for vegetable oils extraction and other purposes. Raw materials are to be obtained under contracts with producers as in the case of the sugar and canning factories. Thus the vagaries of the individual producers' market as associated with the fresh vegetable industry may be avoided.

Three new ventures of the above type are presently in the planning stages in the Lethbridge district: the oil-seed processing plant; a feed mixing plant which will use oil-seed products; and a plant to dehydrate potatoes that will use this product and dried alfalfa in formulating live stock feeds. Dried molasses - beet pulp and ensilage from cannery crop wastes (corn offal and pea vines) find ready

use in the local live stock feeding industry. As this feeding industry expands other points may find need for feed formulating enterprises.

Interest in producing a wide range of vegetables for the "fresh" trade is developing. Its expansion will parallel development of assembly, storage, grading, processing and packaging establishments to make ready produce for the wholesale and retail trade. A definite need for cooling facilities to maintain freshness of produce is seen as a part of successful expansion in this line, since local produce must displace in season that which is now supplied from distant sources.

Enterprises of the nature just mentioned could be established at Lethbridge, Coaldale, Taber, Bow Island, Medicine Hat, Vauxhall, Brooks, and possibly other smaller centres.

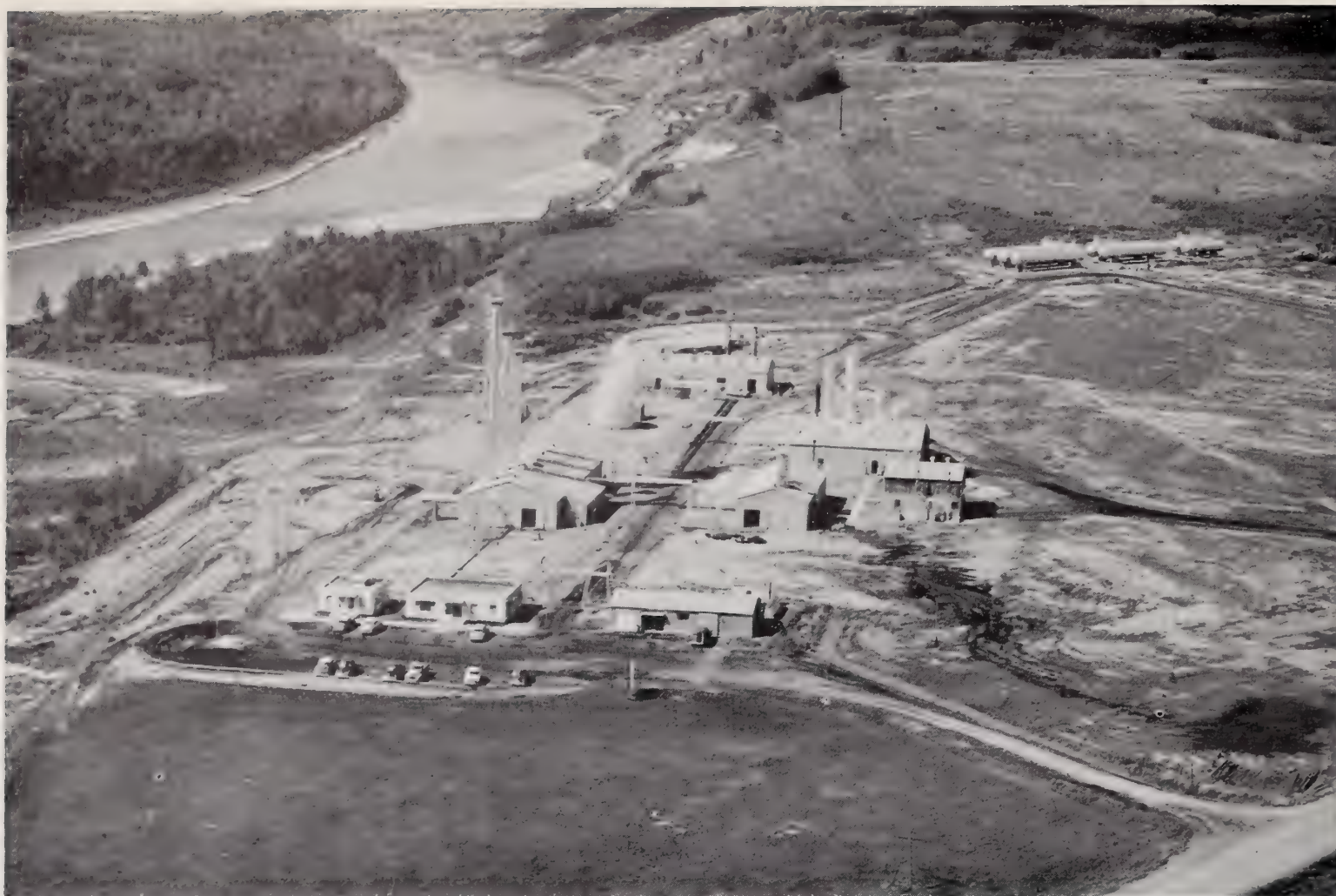
With the advantage of more cloud-free skies and abundant gas heating, there could readily be considerable expansion in greenhouse facilities for growing transplants for field use (tomatoes, sugar-beets, etc.) and the increase of the output of off-season tomatoes and cucumbers.

Major developments will occur eventually in the production of meat and fresh vegetables in this area. Irrigated acres producing high value crops, can economically yield abundant pasturage and high quality vegetables. Canada's surplus production of meats present the least problems in marketing, and home consumption is high and on the increase per capita.



ALBERTA GOVERNMENT PHOTOGRAPH

Harvesting the pea crop in the southern Alberta irrigation districts.



ALBERTA GOVERNMENT PHOTOGRAPH

One of the gas absorption plants dotting the Alberta landscape.



COURTESY OF GYPSUM LIME AND ALABASTINE CANADA LTD.

Plaster building products are manufactured at plants in Calgary.

TABLE 40. FARM OPERATING EXPENSES AND DEPRECIATION CHARGES - ALBERTA

1946 - 1957

YEAR	TAXES	GROSS RENT	HIRED LABOUR	INTEREST ON INDEBT- EDNESS	FEED AND SEED	TRACTOR	TRUCK	AUTOMOBILE	ENGINE AND COMBINE
- THOUSAND DOLLARS -									
1946	9,602	20,869	18,037	5,788	11,647	15,477	4,586	3,399	1,682
1947	10,769	23,600	20,327	5,768	17,122	16,325	5,639	3,866	1,887
1948	12,560	23,800	20,419	5,817	20,206	20,242	6,920	4,550	2,359
1949	14,198	18,664	20,422	6,025	19,544	22,960	8,442	4,839	2,559
1950	14,822	20,756	22,975	6,281	17,752	27,184	11,627	6,440	2,902
1951	15,118	24,852	25,406	6,697	15,099	28,935	16,041	8,282	3,128
1952	16,630	25,719	29,983	6,893	12,499	30,747	16,697	8,187	3,297
1953	18,193	20,779	28,913	7,152	10,228	32,944	18,258	8,147	3,421
1954	19,012	14,383	22,869	7,240	14,223	34,697	19,138	8,248	3,396
1955	18,099	18,967	24,170	7,342	15,036	35,359	20,457	8,264	3,596
1956	19,149	18,829	25,390	7,679	15,616	38,028	22,078	8,617	3,837
1957	19,245	14,443	24,000	7,853	15,435	37,907	23,147	8,531	3,819

YEAR	MACHINERY REPAIRS	FERTILIZER AND AGRICULTURE LIME	FRUIT AND VEGETABLE SUPPLIES	BUILDING REPAIRS	ELECTRIC POWER	MISCELLAN- EOUS	DEPRECIA- TION BUILDINGS AND MACHINERY	TOTAL OPERATING AND DEPRECIA- TION
- THOUSAND DOLLARS -								
1946	9,625	686	2,001	2,962	85	8,151	23,265	137,862
1947	10,952	969	2,506	3,207	126	9,928	26,993	159,984
1948	12,856	1,294	2,558	4,010	180	10,449	32,553	180,773
1949	12,805	1,993	2,529	4,167	238	10,860	38,450	188,695
1950	13,580	2,409	2,469	4,416	328	11,043	45,107	210,091
1951	12,969	3,271	2,964	6,521	448	12,299	51,424	233,454
1952	13,962	2,991	3,071	8,253	548	12,855	53,202	245,534
1953	14,094	3,612	2,958	8,708	749	12,906	56,891	247,953
1954	11,689	3,000	2,870	8,792	906	12,301	58,174	240,938
1955	12,173	2,755	3,318	8,478	1,095	13,150	56,840	249,099
1956	13,215	3,136	3,655	9,534	1,334	14,051	55,761	259,909
1957	13,500	3,549	3,720	8,762	1,500	13,859	55,032	254,302

TABLE 41. FARM MACHINERY AND ELECTRIC POWER - BY CENSUS DIVISIONS - ALBERTA - 1956

ALBERTA	CENSUS DIVISION						
	1	2	3	4	5	6	7
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
FARM MACHINERY							
AUTOMOBILES -----	1,551	3,907	2,149	1,516	3,912	3,805	3,972
MOTOR TRUCKS -----	2,640	6,227	2,934	2,208	5,521	4,786	4,021
TRACTORS -----	2,970	8,253	3,856	3,003	6,508	6,584	6,960
GRAIN COMBINES -----	1,667	3,213	1,557	1,501	3,994	2,391	2,923
GASOLINE ENGINES -----	3,071	4,297	2,676	3,094	6,423	4,504	4,762
ELECTRIC POWER							
FARMS REPORTING -----	1,052	3,612	2,052	1,041	3,467	3,970	3,344
POWER LINES -----	668	3,376	1,718	596	3,085	3,643	2,975
WIND ELECTRIC -----	209	108	146	201	131	73	124
OTHER -----	182	134	190	272	253	256	247
CENSUS DIVISION 8	CENSUS DIVISION 9	CENSUS DIVISION 10	CENSUS DIVISION 11	CENSUS DIVISION 12	CENSUS DIVISION 13	CENSUS DIVISION 14	CENSUS DIVISION 15
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
FARM MACHINERY							
AUTOMOBILES -----	83	7,090	5,715	1,940	3,495	376	4,007
MOTOR TRUCKS -----	161	6,603	5,552	2,714	4,538	654	5,455
TRACTORS -----	200	12,686	10,273	5,044	8,842	1,054	9,702
GRAIN COMBINES -----	13	4,351	2,907	896	2,181	79	3,292
GASOLINE ENGINES -----	120	9,517	5,887	2,655	4,970	611	5,407
ELECTRIC POWER							
FARMS REPORTING -----	76	5,526	5,564	1,567	2,896	169	2,255
POWER LINES -----	37	4,977	5,230	1,239	2,466	22	1,851
WIND ELECTRIC -----	11	131	25	36	39	6	38
OTHER -----	29	419	310	292	393	141	367

TABLE 42. LIVESTOCK AND POULTRY ON FARMS - BY CENSUS DIVISIONS - ALBERTA - 1956

ALBERTA		CENSUS DIVISION 1	CENSUS DIVISION 2	CENSUS DIVISION 3	CENSUS DIVISION 4	CENSUS DIVISION 5	CENSUS DIVISION 6	CENSUS DIVISION 7
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
LIVESTOCK								
HORSES -----	154,672	4,832	5,666	9,733	9,547	6,351	13,575	13,586
CATTLE -----	2,449,211	150,831	203,187	204,655	167,974	170,847	294,339	247,145
HOGS -----	1,211,508	14,825	83,199	38,782	11,551	74,064	82,516	68,683
SHEEP -----	404,820	51,785	83,794	101,679	9,010	13,463	25,990	10,359
POULTRY								
HENS AND CHICKENS ---	9,443,521	220,494	667,713	401,035	189,109	707,160	876,638	554,636
TURKEYS -----	820,154	8,352	57,054	49,282	5,435	75,247	60,225	27,735
DUCKS -----	98,928	3,413	14,639	15,229	3,091	6,472	8,455	3,699
GEESE -----	86,314	2,898	13,377	9,518	1,745	5,655	5,119	3,376
LIVESTOCK								
HORSES -----	12,865	1,510	22,674	12,571	12,696	12,481	2,068	14,517
CATTLE -----	213,804	18,956	284,116	170,980	84,367	130,028	15,588	92,394
HOGS -----	134,756	1,172	220,331	149,923	108,627	130,288	5,765	87,026
SHEEP -----	24,393	688	10,761	25,105	10,921	21,120	4,742	11,010
POULTRY								
HENS AND CHICKENS ---	662,982	6,816	1,618,132	1,442,743	524,122	952,847	72,877	546,217
TURKEYS -----	36,939	151	232,304	111,122	53,085	77,904	3,076	22,243
DUCKS -----	3,296	73	17,490	8,897	5,366	6,111	401	2,296
GEESE -----	5,332	96	11,911	8,918	4,880	8,235	776	4,478

TABLE 43. INCOME OF FARM OPERATORS FROM FARMING OPERATIONS - ALBERTA

YEAR	1946 - 1957								
	1	2	3	4	5	6	7	8	9
	CASH INCOME FROM FARM PRODUCTS	INCOME IN KIND	SUPPLE- MENTARY PAYMENTS	REALIZED GROSS INCOME	OPERATING AND DEPRECIATION CHARGES	REALIZED NET INCOME	VALUE OF INVENTORY CHANGE	TOTAL GROSS INCOME	TOTAL NET INCOME
				(1 + 2 + 3)		(4 - 5)		(4 + 7)	(8 - 5)
- THOUSAND DOLLARS -									
1946	283,270	31,049	4,458	318,777	137,862	180,915	15,792	334,569	196,707
1947	346,205	34,564	1,732	382,501	159,984	222,517	- 2,401	380,100	220,116
1948	440,531	39,470	3,533	483,534	180,773	302,761	- 6,674	476,860	296,087
1949	444,382	38,785	3,360	486,527	188,695	297,832	-52,113	434,414	245,719
1950	356,471	38,017	5,256	399,744	210,091	189,653	14,302	414,046	203,955
1951	459,226	42,245	4,235	505,706	233,454	272,252	119,692	625,398	391,944
1952	508,646	41,413	2,349	552,408	245,534	306,874	74,946	627,354	381,820
1953	490,857	42,363	559	533,779	247,953	285,826	24,117	557,896	309,943
1954	390,322	39,039	1,031	430,392	240,938	189,454	11,260	441,652	200,714
1955	369,411	39,203	5,776	414,390	249,099	165,291	43,908	458,298	209,199
1956	437,846	39,818	1,319	478,983	259,909	219,074	53,022	532,005	272,096
1957	440,740	38,842	905	480,487	254,302	226,185	-41,623	438,864	184,562

TABLE 44. FARM INCOME IN KIND - ALBERTA

YEAR	1946 - 1957								
	DAIRY PRODUCTS	POULTRY AND EGGS	MEAT	FRUITS AND VEGETABLES	HONEY	FOREST PRODUCTS	OTHER PRODUCTS	HOUSE RENT	TOTAL
- THOUSAND DOLLARS -									
1946	4,533	5,506	3,728	6,304	44	1,888	20	9,026	31,049
1947	5,725	5,303	4,549	6,720	50	1,840	27	10,350	34,564
1948	7,199	5,312	5,177	7,357	157	1,770	32	12,466	39,470
1949	6,198	5,578	4,691	7,621	61	1,655	25	12,956	38,785
1950	5,453	5,120	5,293	7,031	67	1,566	8	13,479	38,017
1951	5,996	7,466	5,634	7,430	29	1,674	5	14,011	42,245
1952	5,342	7,257	4,638	8,910	28	1,225	2	14,011	41,413
1953	5,097	7,223	4,833	7,874	26	1,013	16	16,281	42,363
1954	5,233	6,485	5,395	7,594	19	800	14	13,499	39,039
1955	5,387	6,540	5,060	7,661	25	690	17	13,823	39,203
1956	5,447	5,646	5,159	7,707	24	1,666	12	14,157	39,818
1957	5,270	5,199	4,949	7,609	27	1,623	8	14,157	38,842

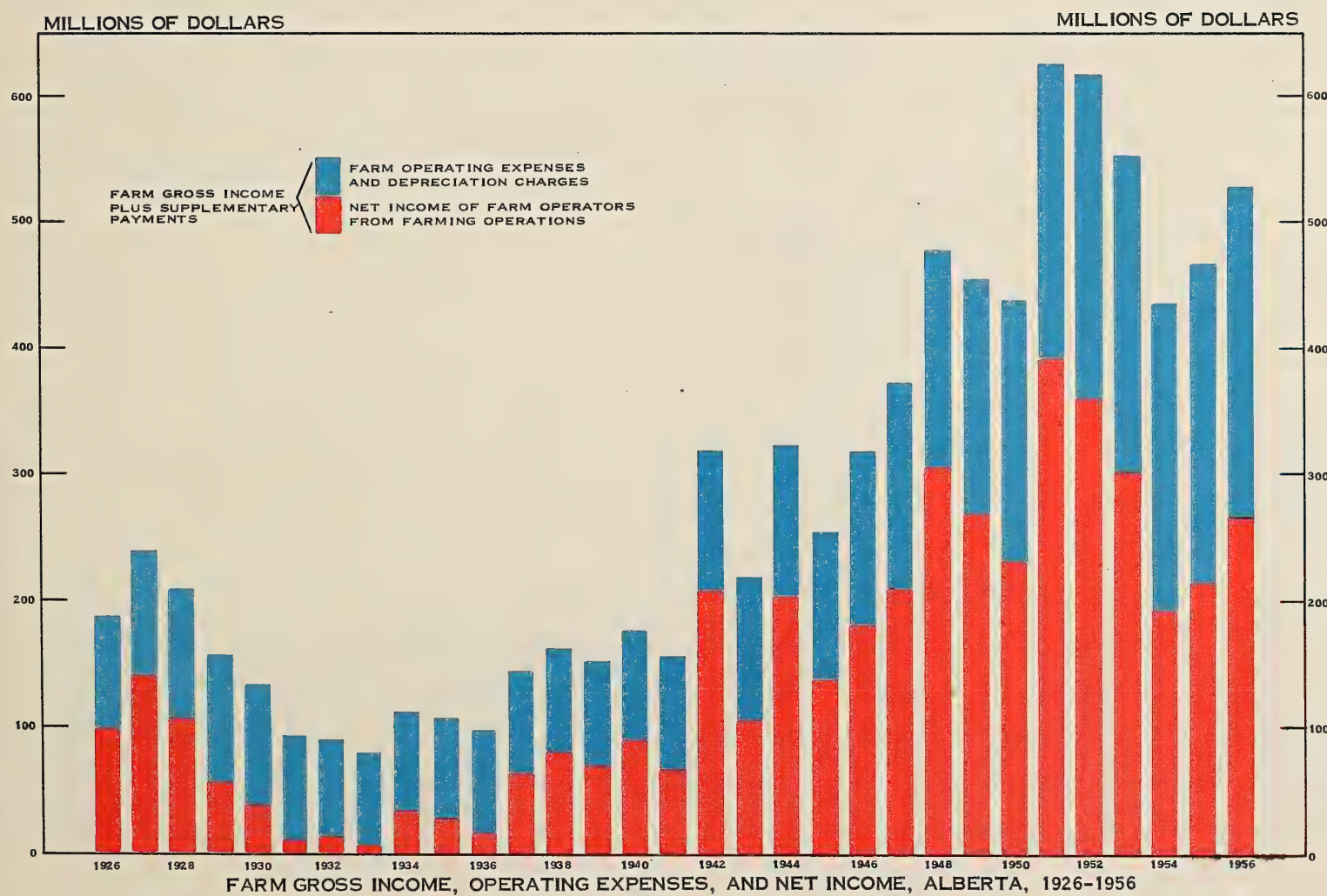
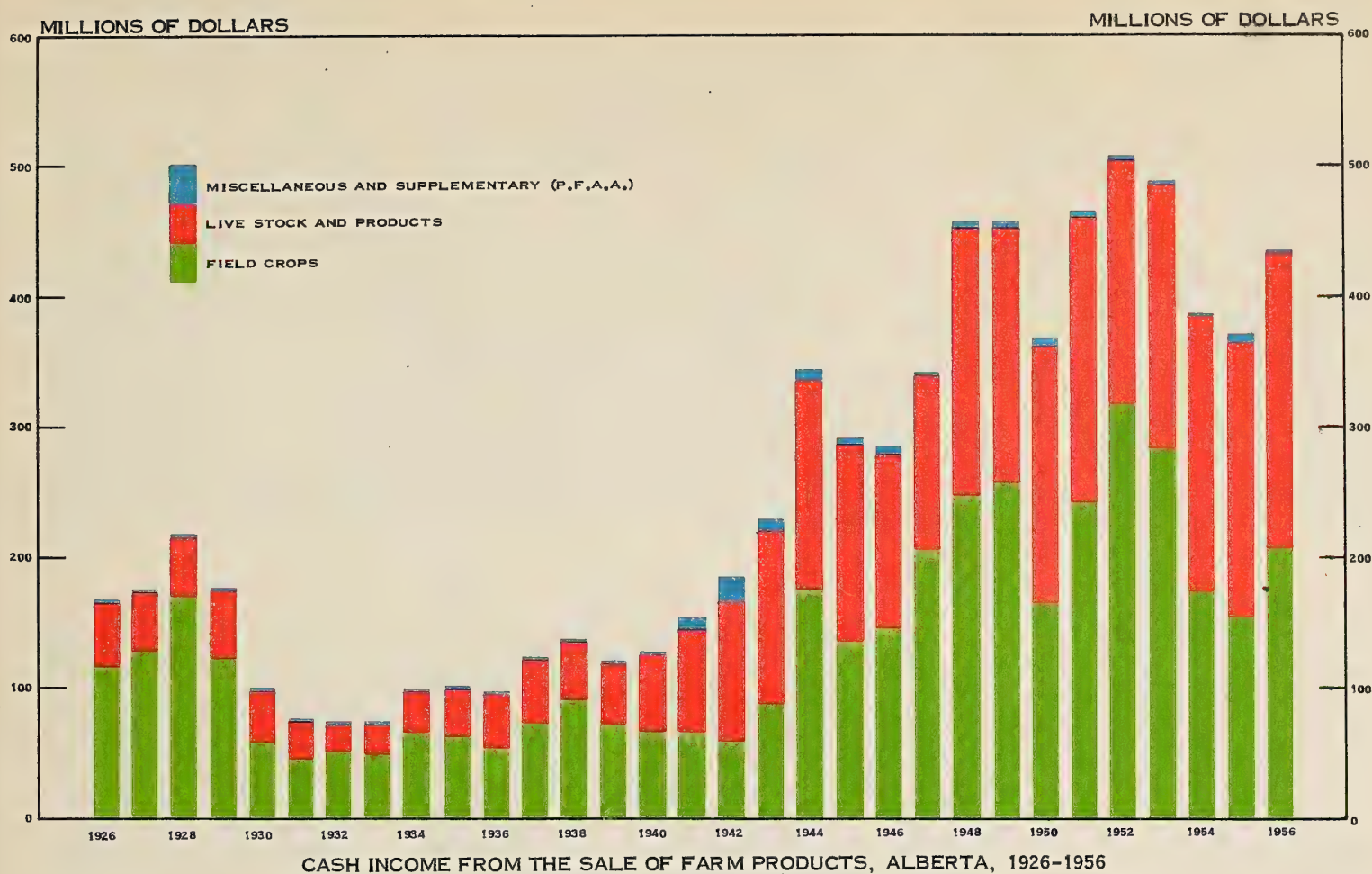
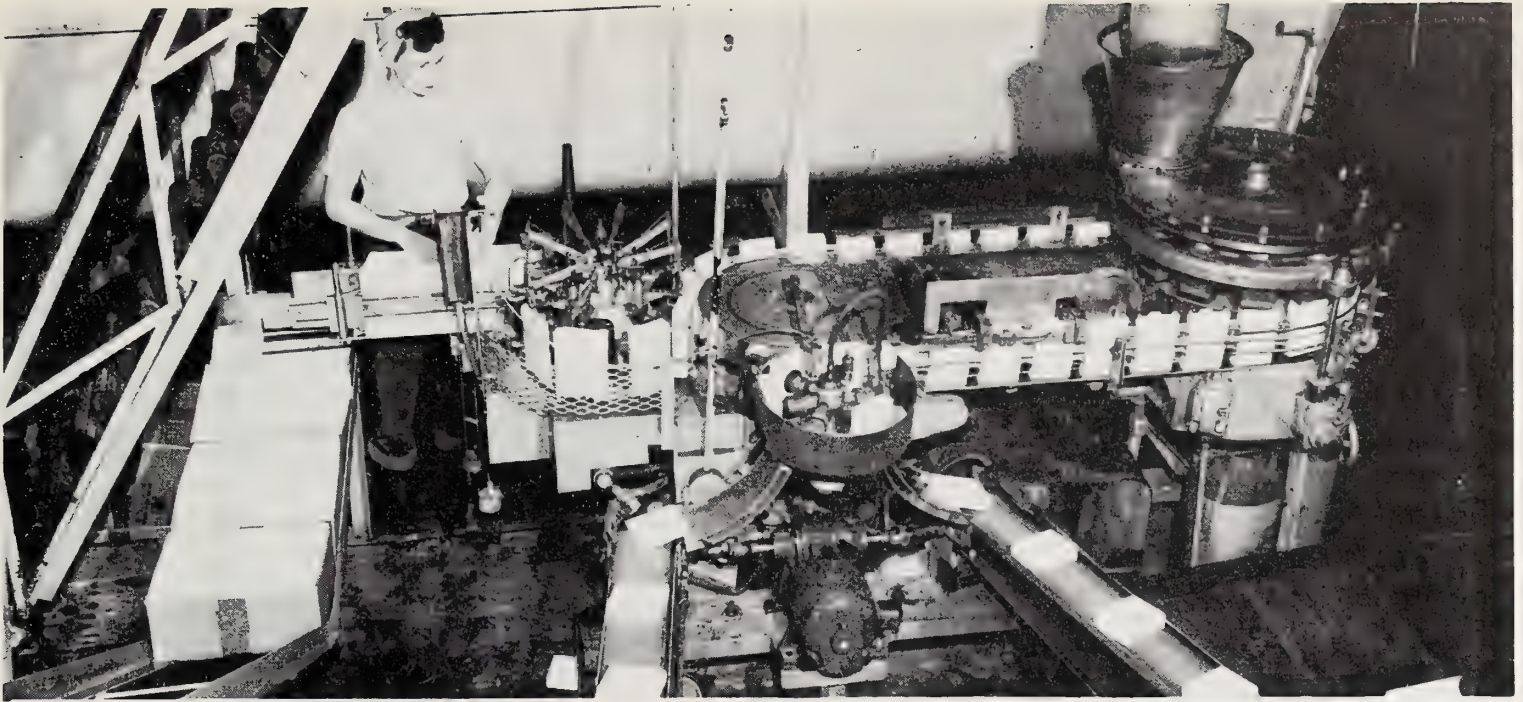


TABLE 45. CASH INCOME FROM THE SALE OF FARM PRODUCTS - ALBERTA

1946 - 1957

YEAR	WHEAT	OATS	BARLEY	RYE	FLAX- SEED	WHEAT* BOARD PAYMENTS	POTATOES	VEGE- TABLES	OTHER CROPS	TOTAL CROPS	CATTLE AND CALVES
- THOUSAND DOLLARS -											
1946	97,433	12,801	7,787	4,190	1,461	12,585	1,248	1,149	10,118	148,772	48,613
1947	109,308	20,794	21,122	11,419	7,407	20,785	1,414	1,148	11,835	205,232	45,974
1948	118,304	16,192	19,541	8,552	9,101	54,077	1,496	1,440	19,661	248,364	79,612
1949	136,675	12,151	16,019	4,653	2,648	69,790	1,574	1,233	14,023	258,766	84,403
1950	109,838	8,013	12,648	3,077	788	13,255	1,529	1,002	16,179	166,329	93,862
1951	101,636	9,737	21,203	4,478	2,143	87,323	1,479	1,238	14,904	244,141	95,105
1952	157,468	22,058	44,663	7,288	5,337	66,761	2,234	2,075	17,028	324,912	70,500
1953	154,215	17,009	39,433	3,780	4,260	50,428	1,824	2,439	16,198	289,586	72,701
1954	82,537	13,159	26,139	3,801	3,839	29,737	1,405	2,097	15,396	178,110	77,571
1955	93,369	5,751	22,066	1,901	6,341	13,070	1,529	2,482	13,338	159,847	80,278
1956	116,181	9,554	29,656	3,857	10,215	25,101	1,983	2,751	15,960	215,258	87,776
1957	95,032	8,986	28,572	1,086	14,113	25,053	1,679	3,485	15,054	193,060	110,561

YEAR	HOGS	SHEEP AND LAMBS	DAIRY PRODUCTS	POULTRY	EGGS	OTHER LIVESTOCK AND PRODUCTS	TOTAL LIVESTOCK AND PRODUCTS	FOREST PRODUCTS	CASH INCOME FROM FARM PRODUCTS	SUPPLE- MENTARY PAYMENTS	TOTAL CASH INCOME
- THOUSAND DOLLARS -											
1946	47,710	2,686	19,029	4,988	6,922	4,213	134,161	337	283,270	4,458	287,728
1947	50,158	3,072	22,317	5,190	7,932	5,946	140,589	384	346,205	1,732	347,937
1948	59,828	2,766	27,852	6,113	9,076	6,460	191,707	460	440,531	3,533	444,064
1949	52,175	3,064	25,371	6,865	8,063	5,228	185,169	447	444,382	3,360	447,742
1950	49,803	3,203	24,357	6,679	6,228	5,519	189,651	491	356,471	5,256	361,727
1951	64,341	1,965	26,955	10,839	9,166	6,002	214,373	712	459,226	4,235	463,461
1952	60,051	2,190	26,582	9,051	8,782	5,809	182,965	769	508,646	2,349	510,995
1953	70,743	1,655	28,612	9,980	11,369	5,581	200,641	630	490,857	559	491,416
1954	75,342	1,666	28,936	11,470	11,455	5,243	211,683	529	390,322	1,031	391,353
1955	67,208	2,391	30,173	9,871	13,178	5,732	208,831	733	369,411	5,776	375,187
1956	67,258	2,162	31,253	14,700	13,066	5,671	221,886	702	437,846	1,319	439,165
1957	65,475	2,571	33,848	15,402	12,680	6,541	247,078	602	440,740	905	441,645



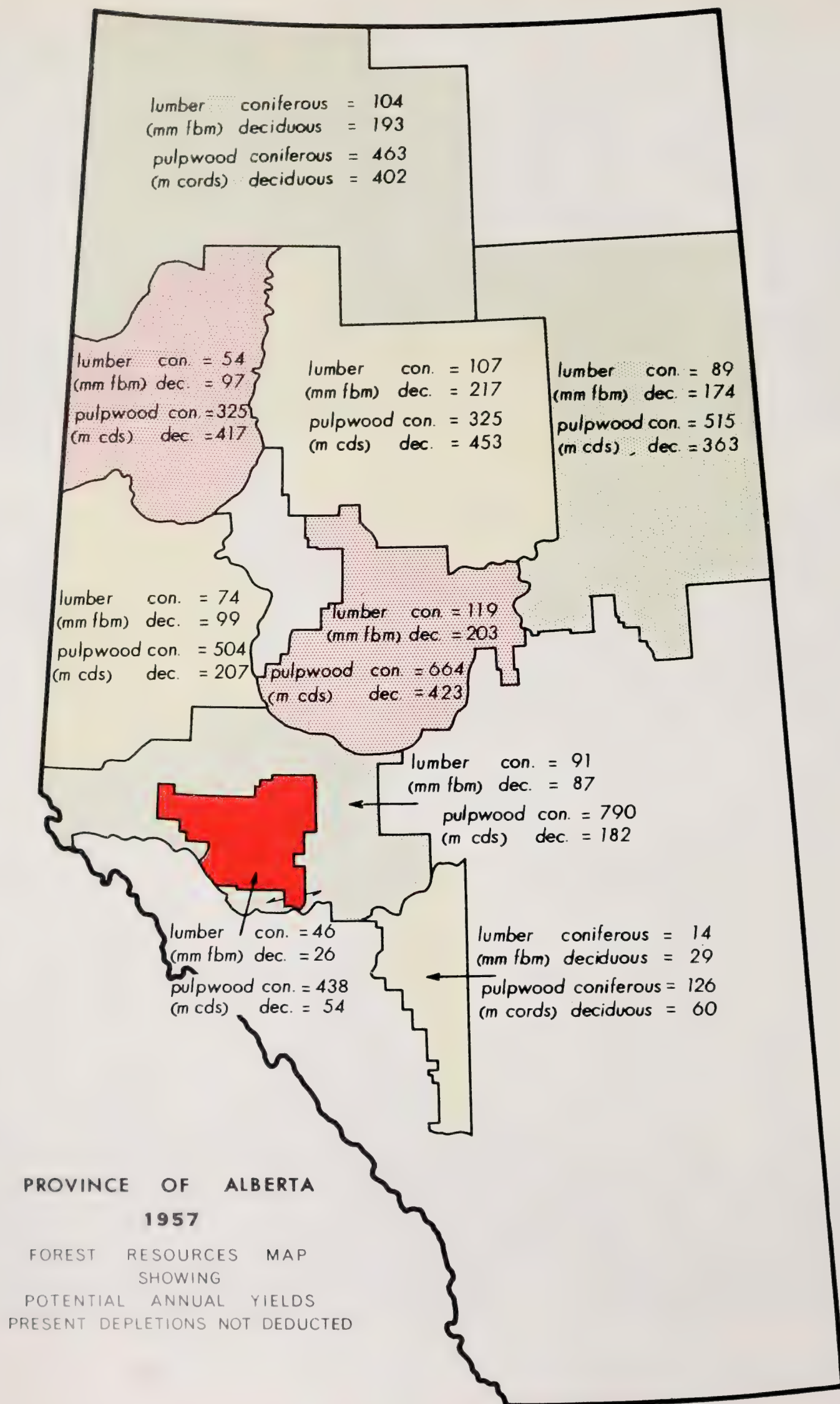
ALBERTA GOVERNMENT PHOTOGRAPH

Frozen peas are packaged in southern Alberta canneries.



COURTESY OF CANADIAN INDUSTRIES LTD.

Natural gas is the raw material for this C.I.L. Polyethylene Plastic plant.



FORESTRY

Alberta has a large forest-producing area where the rate of growth of merchantable species compares favourably with the rate for the same species in parts of eastern Canada. This valuable asset is coming to be recognized more and more.

The Authority for the administration of Crown timber lands is contained in The Forest Act. The Act specifies the methods of obtaining cutting rights, the powers of the Minister, the rights of the licencees, the methods of determining Crown timber charges, the penalties for infringements of the Act, and makes provisions for regulations. The Act ensures the continuation of established industry by giving the Minister authority to offer timber stands for sale to the public by tender or auction. Where management units are set up and timber is available and suitable for cutting, the Director of Forestry is given authority to limit the cutting of timber and specify the quantities and species of timber that may be cut.

Under special circumstances, the Minister, with the approval of the Lieutenant-Governor-in-Council may consummate an agreement whereby timber be made available for the establishment of a new industry. Such an agreement was made in recent years and led to the establishment of the new pulp mill at Hinton. In this agreement the company was required to provide a forest management plan to ensure sustained yield.

Agreements of similar nature have been signed with the plywood manufacturing firms whereby the poplar cutting rights on certain Crown lands have been leased to assure a plentiful and continuous supply of timber for their needs.

Only since 1930 have the forest lands in Alberta been under the control of the province. Since then, there have been major administrative changes affecting the forest region. A joint federal-provincial body, the Eastern Rockies Forest Conservation Board, was set up to administer the Rocky Mountain Forest Reserve. The object of management is to protect and manage for optimum yield the water of the Saskatchewan River and its tributaries. That is, the area has been set aside principally to protect the watershed.

Two other major land divisions were outlined. In one, new land settlement is permitted for agriculture. The other comprises areas which have been reserved from settlement. In the latter division, approximating 142,000 square miles, the majority of the commercial forests of Alberta are situated.

The forests were formerly regarded as handicapping the successful settlement of farm lands. Comparatively few citizens were vitally concerned about setting up a proper method of protection and administration which would assure the perpetuation of the forests in a state of production. Thus forest fires, caused largely by carelessness, have done far more to reduce the merchantable stands of timber and the production possibilities than has actual harvesting of forest products.

The government of Alberta maintains a fire protection organization and co-operates with licencees for fire protection on their timber berths. Provincial legislation regulates the use of fire for clearing and other legitimate purposes, and provides for closed seasons during dangerous periods.

In Alberta, 1956 fire-killed timber losses were estimated to be over 372,800,000 board feet of saw log size timber and 5,242,000 cords of pulpwood size material. Much of this material is in accessible areas. There is sufficient wood fibre in this volume to sustain a pulp mill, the size of that at Hinton, operating a full capacity for almost 18 years.

Forest industries, to be sustained in any one locality, must depend on the sustained producing power of the forest by species and size of tree at rotation age. Serious undercutting or over-cutting is to be avoided.

The provincial government in 1950 commenced a forest inventory of the area reserved from settlement. The purpose was to find out the actual forest area and to obtain estimates of timber volume by areas. The inventory consists of a classification of land in acres according to potential productivity and an estimate of the volume of merchantable timber 4" DBH (diameter breast height) and up.

The primary object of the survey was to give fairly accurate information of area and volume by classes of forest growth, the data to be used to initiate broad management plans.

The summaries show the following:

	Acres	Per Cent
Productive Forest Lands:	38,452,070	43
Potential Forest Lands:	25,597,517	28
(old burns and recent burns, clear cuts where the photographs did not show discernible restocking)		
Non-Productive Forest Lands:	26,551,638	29
(alpine or barren, scrub of no commercial value, swamp and water)		
TOTAL:	<u>90,601,225</u>	<u>100</u> %

The productive forest land inventoried is computed to have a net merchantable volume of 37,300,000,000 cubic feet of wood in trees 3.5 inches or greater in diameter at breast height. This volume is made up in the following proportions:

		Cubic Feet
Coniferous Growth:		
White Spruce	23%	8,579,000,000
Black Spruce	3%	1,119,000,000
Balsam Fir	2%	746,000,000
Jack & Lodgepole Pine	23%	8,579,000,000
TOTAL:	<u>51%</u>	<u>19,023,000,000</u>
Deciduous Growth:		
Poplar, Aspen and		
White Birch	49%	18,277,000,000

The area classed as potential forest land is made up of denuded areas such as:

	Sq. Miles
Old Burns	13,052
Recent Burns	9,114
Clear Cut	52
Recent Windfall	2
TOTAL:	<u>22,220</u>

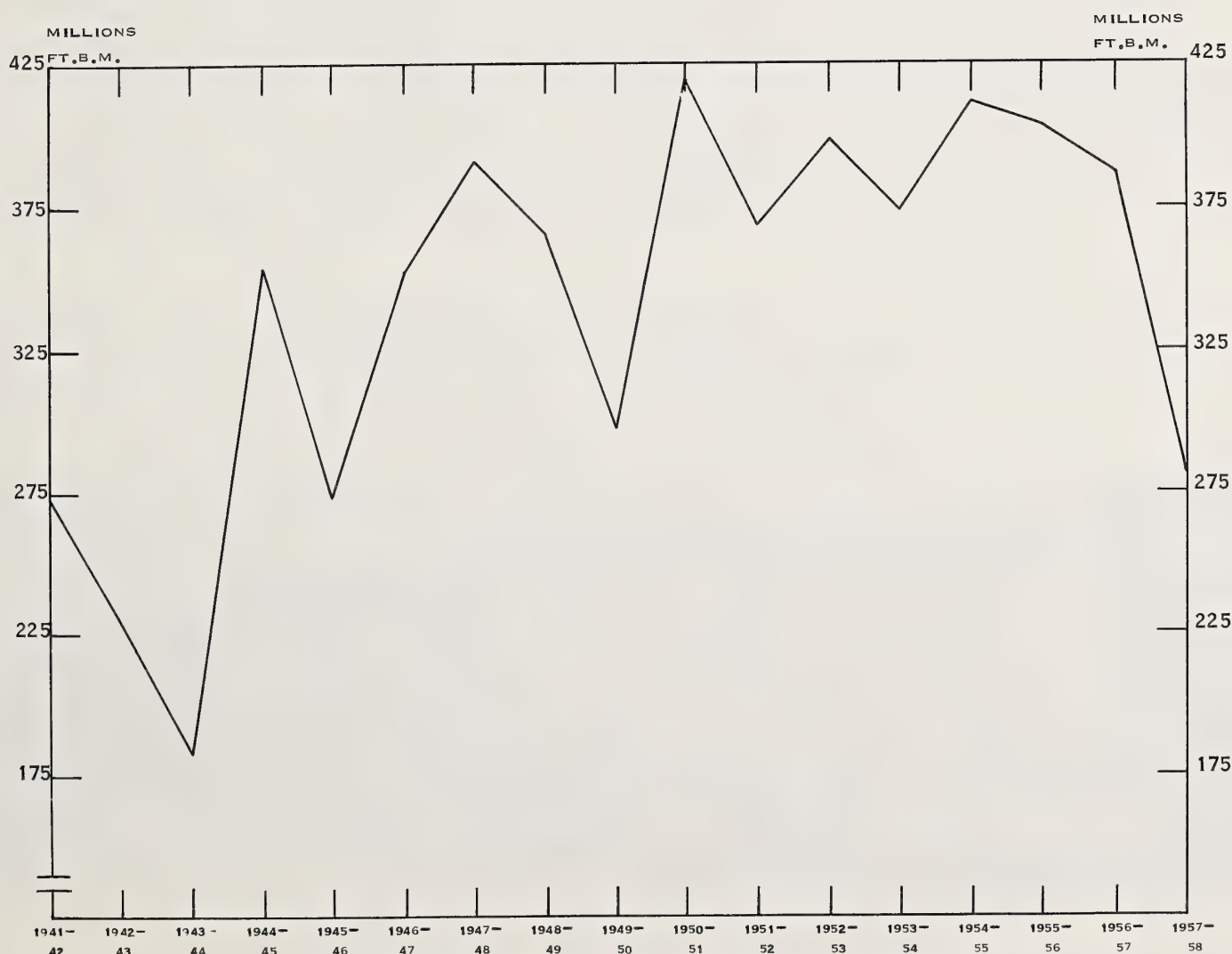
With these completed overall surveys, management units averaging 1,000 square miles have been outlined. The plans include a cutting programme regulated to sustain yield, a protection

TABLE 46. ALBERTA FOREST PRODUCTION, FROM CROWN LANDS

(INCLUDES SETTLERS' PERMITS) 1948-49 TO 1957-58

FISCAL YEARS		1948-49	1949-50	1950-51	1951-52	1952-53
FUELWOOD	(CORDS)	43,436	16,330	11,750	9,884	12,493
LATH	(PIECES)	667,350	600,140	2,729,900	555,330	1,633,200
LUMBER	(FT. B. M.)	366,351,842	297,821,740	419,364,344	369,010,091	398,389,389
MINE TIES	(PIECES)	1,194	2,537		28,047	103,601
POLES AND PILING	(LIN. FT.)	4,554,708	4,009,727	323,915	668,714	1,547,436
PULPWOOD	(CORDS)	19,365	7,289	39,540	105,073	13,225
PLYWOOD LOGS (POPLAR)	(FT. B. M.)					
PLYWOOD LOGS (PINE)	(FT. B. M.)					
RAILWAY TIES	(PIECES)	1,659,738	853,587	1,126,708	1,404,861	1,587,979
ROUND TIMBER	(LIN. FT.)	16,747,499	10,968,863	8,849,218	16,034,475	10,192,006
SHINGLES	(PIECES)	60,000	42,000	35,000	22,000	427,550
PLUGWOOD	(CORDS)					210

FISCAL YEARS		1953-54	1954-55	1955-56	1956-57	1957-58
FUELWOOD	(CORDS)	6,325	6,229	6,044	11,591	2,410
LATH	(PIECES)	2,131,164	1,610,035	1,006,700	1,615,950	1,568,850
LUMBER	(FT. B. M.)	373,545,332	412,025,837	403,929,802	387,001,377	285,165,910
MINE TIES	(PIECES)	40,093	8,611	6,911	35,470	11,713
POLES AND PILING	(LIN. FT.)	1,236,907	415,786	544,375	1,602,321	670,141
PULPWOOD	(CORDS)	18,868	15,937	53,754	188,134	200,590
PLYWOOD LOGS (POPLAR)	(FT. B. M.)		1,159,955	1,226,117	3,792,829	5,258,772
PLYWOOD LOGS (PINE)	(FT. B. M.)					2,987,410
RAILWAY TIES	(PIECES)	1,289,129	753,462	1,425,834	1,785,466	1,585,833
ROUND TIMBER	(LIN. FT.)	7,249,986	7,325,889	4,823,943	8,665,005	3,248,369
SHINGLES	(PIECES)	152,690			24,444	
PLUGWOOD	(CORDS)	336			61	



TIMBER PRODUCTION, ALBERTA, 1941-42 TO 1957-58

plan with the objective of reducing the fire losses to a set minimum, and an improvement programme for each management unit to attain these objectives.

Although the white spruce lumber industry has dominated production from Alberta forests (80 per cent of a 470 million Ft.b.m. production during the 1955-56 fiscal year period) the trend is toward a more diversified industry. The recently completed inventory has pointed up that this must follow if better utilization of our forest growth is to be attained. Obviously the future of the forest resources depends on the relationship between growth and depletion and the measures taken to effect a balance between the two.

White spruce has been our most important commercial species and therefore the most heavily exploited. It is the most difficult to regenerate. The inventory has shown that this species has been over-exploited and that it will be difficult to sustain indefinitely the present rate of production. The inventory has also shown a reasonably plentiful supply of both pines and poplars, the other two major species groups growing in Alberta. The reason for this unbalanced condition in utilization has been lack of planning and co-ordination.

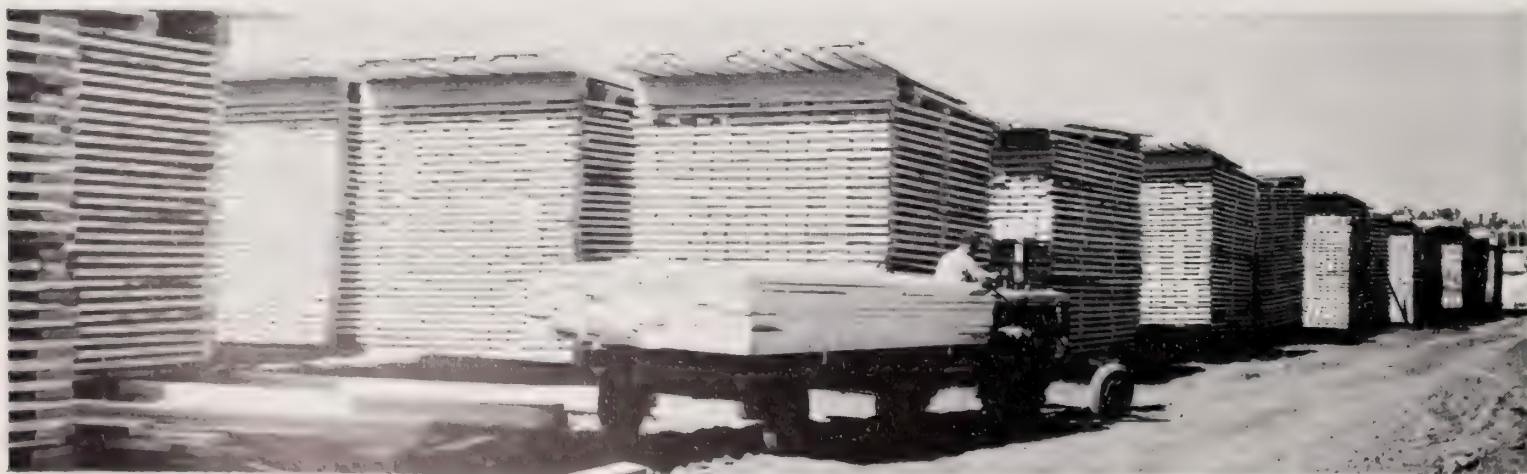
Indications are that in future there will be markets available and that Alberta's forest industry will be more diversified. The following are some of the bases which substantiate this expectation. Lumber production is expected to continue high along with a high volume of construction. Local rural electrification programmes, coupled with greater acceptance of treated Alberta poles, will utilize more of the extensive pole size pine stands in the foothills region. The \$42 million pulp mill at Hinton will assist greatly in utilizing the same size material with an expected annual input of 350,000 cords. More pulp mills are expected.

The inventory has shown that Alberta softwood-tree growth is more suited by size for pulp-wood harvesting than for lumber. This, coupled with an abundance of potential power in gas and coal and a good supply of water, makes a basis for an expansion in the pulp and paper industry.

Plywood manufacturing commenced in 1953. There are now four plants in operation, each expecting to utilize annually 10 million Ft.b.m. of poplar. With new applications being found for plywood, it is replacing sawn lumber more and more. For some purposes poplar plywood is preferable to Douglas Fir.

Much could be done toward better forest utilization by establishing integrated by-product utilization units for production of pulp, hardboards, and other synthetic products made from wood fibre, chips, sawdust and shavings.

A very important step toward better utilization would be the conversion of logging and sawmill waste into usable products. In areas close to markets, in other parts of Canada, much has been done toward profitably salvaging waste material. In some cases these products replace plywood and lumber effectively, particularly where structural qualities are not of primary importance.



ALBERTA GOVERNMENT PHOTOGRAPH

Lumber drypiled at a northern Alberta mill.

HIGHWAYS AND MOTOR TRANSPORT

The provincial government has carried on an active program of road building and improvements. The table below shows the comparative mileage of various types of roads in Alberta in 1948 and 1958. It will be noted that paved highway mileage was increased fourfold to a total of 2,758 miles during this ten year period. Paving of both primary and secondary highways is continuing rapidly.

MILEAGE - HIGHWAYS AND ROADS, ALBERTA, 1948 & 1958

		Earth miles	Graded miles	Gravelled miles	Bituminous Surfaced miles	Total miles
Main & Secondary Highways:	1948	335	57	3,705	656	4,753
	1958	69		2,958	2,705	5,732
District & Local Roads:	1948	40,995	26,606	9,469		77,070
	1958	24,037	22,030	35,553	45	81,665
Access Roads:	1948	-	-	-	-	-
	1958	-	-	26	8	34
TOTAL:	1948	41,330	26,663	13,174	656	81,823
	1958	24,106	22,030	38,537	2,758	87,430

Alberta has large undeveloped areas which have been relatively inaccessible up to the present. A resources development program is being carried out to improve road facilities to remote and semi-isolated areas, both to aid in economic development and to attract tourist traffic.

There has been a rapid increase in motor vehicle registrations in recent years. In 1957, there were 405,229 motor vehicles registered in Alberta; one for every 2.9 Albertans. This is the highest vehicle-population ratio in Canada and one of the highest in North America. The high vehicle density, combined with good all-weather road facilities make for mobility of the Alberta labour force. The accompanying table on vehicle registration shows the distribution of motor vehicles within the province in 1957.

Movement of materials by truck transport increased sharply in the post-war period. In 1957, there were 111,171 trucks, providing transportation services, registered in Alberta. Approximately 1,355 million net ton miles of transportation was provided, an average of 12,200 net ton miles per vehicle. This amounts to a 43.1 per cent utilization of load carrying capacity.

Transportation service by motor transport is chiefly on a competitive basis as compared to a monopolistic service by railways. As a result there has been no government regulation of rates. Restrictions are imposed on length, gross weights, and per axle weights of vehicles.

Fuel consumption by the motor transport industry in 1957 was 64.1 million gallons of gasoline, 6.1 million gallons of diesel oil, and 1.0 million gallons of other fuels. Average miles per gallon consumption for gasoline trucks was 10.4, for diesel trucks 5.5, and for trucks consuming other fuels 6.4 miles per gallon.

In view of the present active program of improvement of provincial highways, it is certain that there will be still further increases in the comparative volume of goods carried by highway motor transport rather than railroad. This trend may be offset to some degree by the provisions of "piggyback service" whereby truck trailer units are carried by railroads on intercity routes.

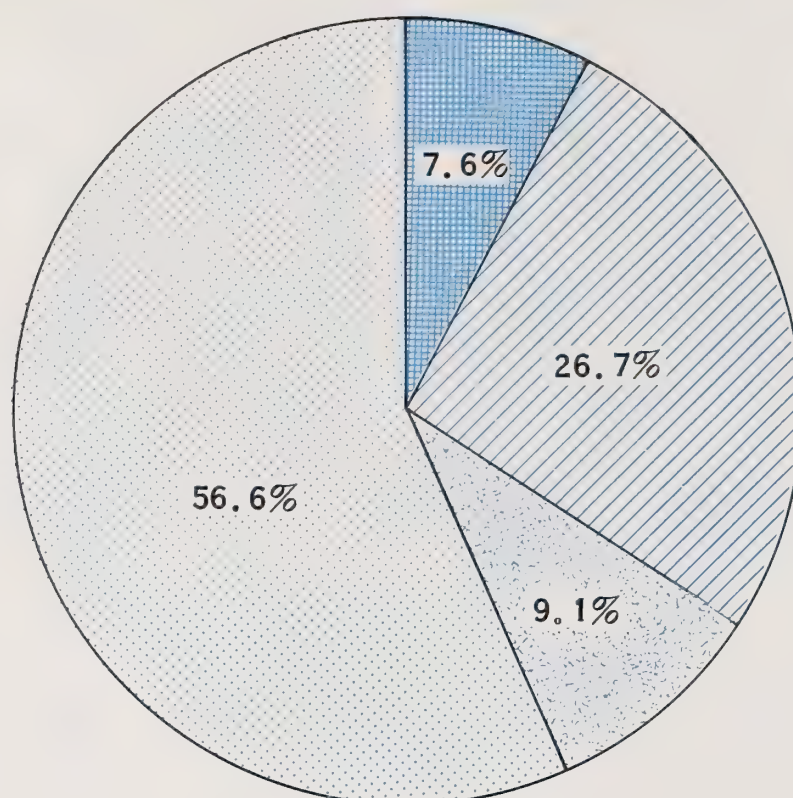
TABLE 47. TRAFFIC PERFORMED BY ALBERTA REGISTERED TRUCKS INSIDE AND OUTSIDE THE PROVINCE, JANUARY 1 - DECEMBER 31, 1957

	By Type of Operation				
		Private			Total
		For Hire	Intercity	Urban	Farm
Mileage					
Total mileage travelled	'000	173,560	259,815	66,388	209,800
Average yearly mileage per truck		20,400	8,800	6,600	3,300
Average distance each ton was carried		47.7	34.6	5.7	15.1
Percentage of total mileage travelled empty...	%	37.5	65.2	34.7	60.3
Fuel					
Total gallons of gasoline consumed	'000	20,459	19,562	7,646	16,449
Miles per gallon of gasoline		6.7	13.1	8.7	12.8
Total gallons of diesel oil consumed	'000	6,139	-	-	-
Miles per gallon of diesel oil		5.5	-	-	-
Total gallons of other fuel consumed	'000	354	639	12	-
Miles per gallon of other fuel		6.2	6.6	6.5	-
Weight of goods carried					
Total tons of goods carried	'000	21,352	3,762	19,384	6,388
Average weight carried	TON	9.4	1.4	2.5	1.2
Net Ton Miles					
Total net ton miles performed	'000	1,018,075	130,050	110,420	96,528
Average net ton miles per truck		119,800	4,400	11,000	1,500
Capacity Ton Miles					
Total capacity ton miles	'000	1,983,277	490,478	287,583	385,971
Average capacity ton miles per truck		233,400	16,500	28,500	6,100
Percentage of capacity utilized	%	51.3	26.5	38.4	25.0
Gross Ton Miles					
Total gross ton miles	'000	2,152,830	699,489	323,332	544,652
Average gross ton miles per truck		253,300	23,600	32,100	8,700
Revenue					
Total revenue	\$ '000	64,427	-	-	-
Revenue per ton mile	¢	6.3	-	-	-
Revenue per mile (total mileage travelled)	¢	37.1	-	-	-
Average yearly revenue per truck	\$	7,600	-	-	-

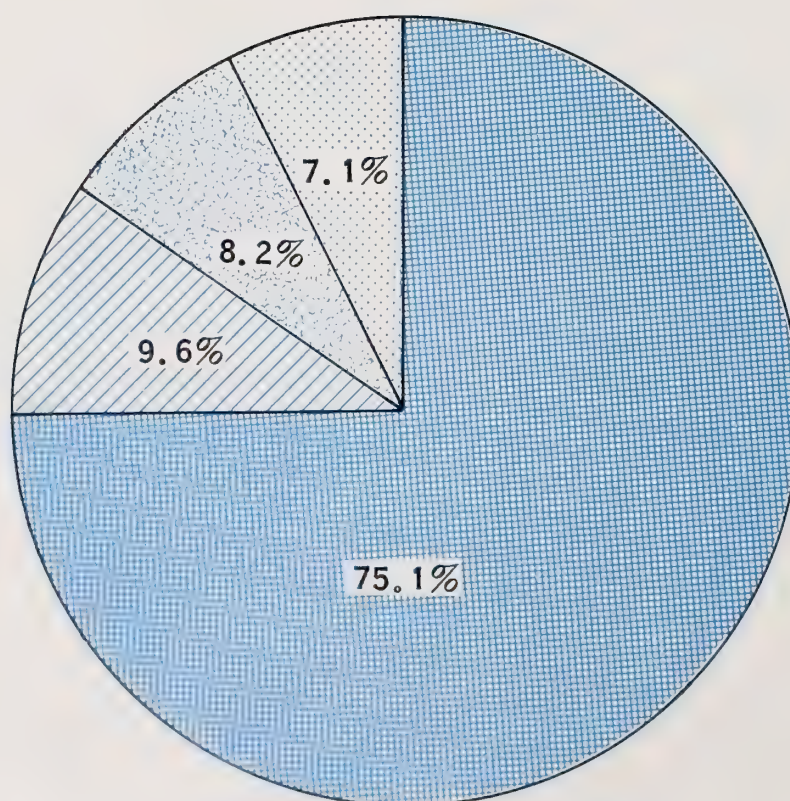
TABLE 48. TRAFFIC PERFORMED BY ALBERTA REGISTERED TRUCKS INSIDE AND OUTSIDE
THE PROVINCE, JANUARY 1 - DECEMBER 31, 1957

	By Gross Vehicle Weight Groups							TOTAL
	0-2 1/2 TONS	2 1/2-5 TONS	5-7 1/2 TONS	7 1/2-10 TONS	10-15 TONS	15-20 TONS	20,001 LBS. AND OVER	
	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	
MILEAGE								
TOTAL MILEAGE TRAVELLED	'000 322,149	109,532	21,444	67,265	97,071	92,102	709,563	
AVERAGE YEARLY MILEAGE PER TRUCK	5,800	4,600	4,800	4,000	12,800	32,900	6,400	
AVERAGE DISTANCE EACH TON WAS CARRIED	15.4	14.7	18.6	14.8	15.1	64.4	26.6	
PERCENTAGE OF TOTAL MILEAGE TRAVELLED EMPTY...%	67.6	52.1	46.6	42.2	44.0	30.6	54.1	
FUEL								
TOTAL GALLONS OF GASOLINE CONSUMED	'000 21,100	8,578	2,160	8,028	13,270	10,980	64,116	
MILES PER GALLON OF GASOLINE	15.3	12.7	9.9	8.2	6.7	5.6	10.4	
TOTAL GALLONS OF DIESEL OIL CONSUMED	'000 -	-	-	-	799	5,340	6,139	
MILES PER GALLON OF DIESEL OIL	-	-	-	-	6.2	5.4	5.5	
TOTAL GALLONS OF OTHER FUEL CONSUMED	'000 18	29	-	120	524	314	1,005	
MILES PER GALLON OF OTHER FUEL	15.8	10.6	-	10.2	6.5	4.0	6.4	
WEIGHT OF GOODS CARRIED								
TOTAL TONS OF GOODS CARRIED	'000 1,865	2,559	1,001	8,831	24,716	11,914	50,886	
AVERAGE WEIGHT CARRIED	TON .3	.7	1.6	3.4	6.8	12.0	4.2	
NET TON MILES								
TOTAL NET TON MILES PERFORMED	'000 28,774	37,716	18,576	130,452	372,460	767,095	1,355,073	
AVERAGE NET TON MILES PER TRUCK	500	1,600	4,100	7,800	49,100	273,800	12,200	
CAPACITY TON MILES								
TOTAL CAPACITY TON MILES	'000 256,693	160,461	74,281	382,796	849,769	1,423,309	3,147,309	
AVERAGE CAPACITY TON MILES PER TRUCK	4,600	6,700	16,600	23,000	112,000	508,000	28,300	
PERCENTAGE OF CAPACITY UTILIZED	% 11.2	23.5	25.0	34.1	43.8	53.9	43.1	
GROSS TON MILES								
TOTAL GROSS TON MILES	'000 537,487	271,986	93,635	407,940	841,058	1,568,197	3,720,303	
AVERAGE GROSS TON MILES PER TRUCK	9,700	11,300	20,900	24,500	110,900	559,700	33,500	

TRUCK REGISTRATIONS BY TYPE OF OPERATION



NET TON MILES BY TYPE OF OPERATION



FOR-HIRE



PRIVATE-INTERCITY



URBAN



FARM

TRUCK REGISTRATIONS AND NET TON MILES BY TYPE OF OPERATION
ALBERTA, 1957

TABLE 49. MOTOR VEHICLE REGISTRATIONS, BY POINT OF ISSUANCE,
ALBERTA, 1957

	PASSENGER CARS	COMMERCIAL VEHICLES	TOTAL
	No.	No.	No.
ATHABASCA	493	476	969
BANFF	1, 157	329	1, 486
BARRHEAD	658	331	989
BLACK DIAMOND	290	146	436
BLAIRMORE	444	199	643
BONNYVILLE	461	307	768
BROOKS	795	434	1, 229
CALGARY (GREATER)	61, 001	13, 242	74, 243
CAMROSE	1, 730	603	2, 333
CARDSTON	954	500	1, 454
CLARESHOLM	963	557	1, 520
COLEMAN	496	190	686
DIDSBURY	727	472	1, 199
DRUMHELLER	1, 170	600	1, 770
EDMONTON (GREATER)	67, 466	16, 029	83, 495
EDSON	1, 023	611	1, 634
FT. MACLEOD	875	462	1, 337
FT. SASKATCHEWAN	999	341	1, 340
GRANDE PRAIRIE	1, 804	816	2, 620
HANNA	742	450	1, 192
HIGH PRAIRIE	490	438	928
HIGH RIVER	928	481	1, 409
INNISFAIL	959	616	1, 575
JASPER	720	180	900
LACOMBE	1, 353	668	2, 021
LEDUC	986	531	1, 517
LETHBRIDGE	8, 317	2, 313	10, 630
LLOYDMINSTER (ALBERTA SIDE)	1, 001	534	1, 535
MAGRATH	399	274	673
MC LENNAN	223	88	311
MEDICINE HAT	5, 778	1, 500	7, 278
OLDS	1, 065	599	1, 664
PEACE RIVER	732	396	1, 128
PINCHER CREEK	765	459	1, 224
PONOKA	1, 530	694	2, 224
RAYMOND	615	446	1, 061
REDCLIFF	535	116	651
RED DEER	3, 839	1, 106	4, 945
REDWATER	396	180	576
ROCKY MOUNTAIN HOUSE	607	538	1, 145
ST. ALBERT	449	226	675
ST. PAUL	644	355	999
STETTTLER	1, 257	531	1, 788
TABER	1, 385	912	2, 297
THREE HILLS	595	374	969
VEGREVILLE	898	499	1, 397
VERMILION	917	532	1, 449
VULCAN	668	471	1, 139
WAINWRIGHT	943	359	1, 302
WESTLOCK	628	377	1, 005
WETASKIWIN	1, 705	728	2, 433
BALANCE OF PROVINCE	81, 668	63, 839	145, 507



RAILWAYS

Alberta is served by three railway companies: the Canadian National Railway; the Canadian Pacific Railway; and the Northern Alberta Railway which is owned jointly by the other two. The major railways, the Canadian Pacific Railway and the Canadian National Railway are transcontinental systems and ensure allweather, year round, access for Alberta raw and manufactured products to world markets. "Feeder" lines, built before motor trucks provided farmers with a means of hauling cheaply, agricultural produce for long distances, form an interconnecting network linking the majority of communities in the more thickly populated part of the province. At present these feeder lines are used mainly for the transportation of bulky cargoes, such as grains and coal, but their presence makes possible the location of industries at any point close to raw materials.

There are two transcontinental systems passing through Winnipeg on the east: the major Alberta termini are Calgary, Red Deer and Edmonton. The Canadian Pacific Railway western terminus is at Vancouver; the Canadian National Railway has termini at Prince Rupert and Vancouver.

RAILWAY MILEAGE IN ALBERTA, 1957

	<u>Total</u>
Canadian Pacific Railway -----	2,663
Canadian National Railway -----	2,196
Northern Alberta Railway -----	923
	<u>5,782</u>

The cities of Medicine Hat, Lethbridge, Edmonton, Calgary, Red Deer, Wetaskiwin, Lloydminster and Camrose are served by the Canadian Pacific Railway. Edmonton, Drumheller, Camrose, Calgary, Red Deer and Lloydminster are on Canadian National Railway lines. Grande Prairie is served by the Northern Alberta Railway through Edmonton and by the P.G.E. to Vancouver. Speaking generally the Canadian Pacific Railway serves the area south of Red Deer; the Canadian National Railway serves the Edmonton area; and the Northern Alberta Railway serves both the Peace River district to the northwest of Edmonton and the area to the northeast terminating at Waterways. However, this generalization must be seriously qualified: the central area of Alberta north of the main line C.P.R. and south of the main line C.N.R. is laced by a network of the lines of both major companies such that most cities and many towns have access to services of both railways.

It was announced in 1958 that a railway is to be built from Pine Point, on Great Slave Lake, to connect with the N.A.R. at either Waterways or Grimshaw. In either case a substantial tonnage of new freight will move by railway through prairie points; and the secondary effects through general development of the northern territories can only be estimated.

Undeniably, Alberta consumers have suffered through being at the apex of the freight rate structure. Rates on manufactured products coming into, or leaving, Alberta are higher than for points in other provinces. Rates on grains are fixed by statute; and on coal are alleviated by federal rail subsidies.

Industries serving local or prairie markets may find the freight structure to their benefit. Freight rates on competitive products become a form of protection, provided the raw materials are locally obtainable.

To industries serving continental or world markets the benefits are more dubious. The cost of transporting Alberta raw materials to a distant point for processing as compared with cost of moving finished or semi-finished goods, may be the final factor in arriving at a decision to manufacture locally.

Both on raw materials and on finished products, special freight charges can be negotiated with the railroads. Manufacturers would be emphatically well advised to negotiate these charges prior to initiating construction of plant property. At this stage more favourable charges can often be agreed upon because of the possibility of losing an account to either a competitive railway or to trucking interests. Prior to construction alternative economic sites can always be chosen.

In assessing potential market areas for Alberta manufacturers, several factors must be considered. On products subject to class rates, Alberta products can be shipped into eastern Manitoba, or western Ontario as far as Fort William as cheaply as from the Toronto-Montreal-Sudbury triangle.

The so-called "bridge subsidy", whereby the federal government contributes \$11 million to reduce freight transit costs over the non-productive areas extending from Fort William to Sudbury, works to the detriment of Alberta manufacturers selling in the Lakehead area, and to the benefit of Alberta manufacturers selling in the area east of Sudbury.

Where raw materials are available in Alberta, the Alberta manufacturer has a competitive advantage over his eastern Canada trade rivals in the British Columbia market. However, where raw materials must be brought in it is found frequently that the materials cost more laid down in Alberta than does the eastern manufactured product in the Pacific coast market. In these instances the manufacturer is well advised to negotiate special rates before beginning operations.

The impact of commodity rates defies easy generalization. Each commodity has to be studied individually. For each the area where rates from eastern manufacturers would equalize with those for an Albertan manufacturer, would have to be determined separately. In this case as well, the charges should be negotiated in advance of plant construction.

The railways are subject to some competition from trucking concerns. The large-volume movement (1958) of truck traffic is from eastern to western Canada, and accordingly truck rates are high enough to cover round trip costs. At this point they closely approximate the \$3 to \$4 per cwt. charged for rail freight. Truck traffic moving eastward is less in volume and freight rates accordingly are somewhat lower because of the more competitive situation. The railways endeavour to meet this competition by quoting "truck competitive rates" or by arranging "agreed charges" in order to make the shipper completely dependent.

"Interswitching" is a problem which is becoming more and more important to Alberta cities as their industrial and warehousing areas expand. This problem comes more to the fore in western Canada because of the limited number of interchanges which are required by only two major railways meeting as compared with the numerous interchanges developed by the smaller lines in the east before they were formed into the two major companies.

The area covered is four track miles from the physical connection designated as the switching limits. Any industry located beyond the four mile limit must pay a local rate into the point of interchange and a local rate beyond. In this rate situation or even if interline rates are negotiated on a lower basis, a company outside the switching area will be faced with a larger freight bill.

The cost of all perishables which go into construction of a private siding, or spur line, is paid by the shipper. The rails and angleiron may be purchased outright or arrangement made for rental at 7 per cent per year. The industry also pays a maintenance charge which over the long term averages 20 cents per foot per annum.

In the case of a long spur being built to a large firm, all the above costs are paid by the shipper. However, a rebate of so much a car is usually arranged until the railway has paid for the spur by way of reduced charges on the freight moved from the plant.

RAILWAYS IN ALBERTA



The freight rate structure, as presently constituted, serves as a protective barrier which fosters the establishment of local industry to supply the growing local market. Nevertheless, while local industries would be faced with greater competition from eastern Canadian suppliers if freight rates were more equitably adjusted, industries built to serve continental or world markets would benefit. On these latter industries in the long run, depends the depth of the diversification of the industrialization of the prairie area.

At present Alberta industries selling in the short-haul markets have definite competitive advantages where freight is an appreciable cost-factor. Intra-Alberta rail freight rates are held down by truck transport competition, and many Alberta industries rely almost exclusively on truck transport. As Canadian road systems improve, highway transport competition can be expected to exert a beneficial effect on rail rates.

It must be stated that the railways are always willing to negotiate rates even where competitive transport is not a factor. But it must be stated equally emphatically that new industries should negotiate before plants are built and wherever possible industry should choose areas served by alternative forms of transportation.



COURTESY OF IMPERIAL OIL LTD.

A seismic crew explodes a dynamite charge in search for oil.

TABLE 50. RAILWAY FREIGHT TRAFFIC - ALBERTA - 1957

COMMODITIES	ORIGINATING	TERMINATING	DELIVERED	APPARENT	APPARENT	APPARENT
	AT BILLING STATIONS	AT RECEIVING STATIONS	TO FOREIGN CONNECTIONS RAIL - WATER	EXPORTS	IMPORTS	NET
PRODUCTS OF AGRICULTURE	TONS	TONS	TONS	TONS	TONS	TONS
WHEAT -----	3,192,868	353,825	1,323	2,839,043		
CORN -----	509	2,218			1,709	
SORGHUM GRAINS -----	316	392			76	
OATS -----	269,807	25,637		244,170		
BARLEY -----	911,536	95,378	26	816,158		
RYE -----	29,546	3,392		26,154		
RICE -----	1,234	1,045		189		
GRAIN, N.O.S. -----	1,598	290		1,308		
FLOUR, WHEAT -----	156,248	13,865		142,383		
MEAL, CORN -----	165	40		125		
FLOUR, EDIBLE, N.O.S. -----	12,430	1,911		10,519		
CEREAL FOOD PREPARATIONS, N.O.S. -----	3,245	6,036			2,791	
MILL PRODUCTS, N.O.S. -----	164,922	44,902	163	120,020		
HAY -----	1,582	1,244		338		
STRAW -----	636	193		443		
TOBACCO, UNMANUFACTURED -----		46			46	
TOBACCO SIFTINGS, SWEEPINGS, AND WASTE -----	51	76			25	
COTTON IN BALES -----	308	226		82		
COTTON LINTERS, NOILS, AND REGINS -----	137	760			623	
COTTONSEED -----	45			45		
COTTONSEED OIL CAKE AND MEAL -----	96	550			454	
COTTONSEED HULLS AND BRAN -----		22			22	
SOYBEANS -----		161			161	
SOYBEAN OIL CAKE AND MEAL -----	683	9,820			9,137	
VEGETABLE AND NUT OIL CAKE AND MEAL, N.O.S. -----	894	4,528			3,634	
APPLES, FRESH, NOT FROZEN -----	257	15,859			15,602	
BANANAS, FRESH -----	60	9,420			9,360	
BERRIES, FRESH, NOT FROZEN -----	34	161			127	
CANTALOUPE AND MELONS, N.O.S. -----		1,016			1,016	
GRAPES, FRESH -----		1,446			1,446	
LEMONS, LIMES, AND CITRUS FRUITS, N.O.S. -----	12	1,104			1,092	
ORANGES AND GRAPEFRUIT -----	78	17,667			17,589	
PEACHES, FRESH, NOT FROZEN -----	88	829			741	
PEARS, FRESH, NOT FROZEN -----		1,162			1,162	
WATERMELONS -----	232	3,234			3,002	
FRUITS, FRESH, N.O.S., NOT FROZEN -----	330	11,127			10,797	
FRUITS, DRIED, DEHYDRATED, AND EVAPORATED, N.O.S. -----	152	1,023			871	
FRUITS AND BERRIES, FRESH, FROZEN -----	94	265			171	
COFFEE -----	77	1,286			1,209	
CABBAGE -----	13	1,175			1,162	
CELERY -----		648			648	
LETTUCE -----		5,421			5,421	
ONIONS, DRY -----	20	1,651			1,631	
POTATOES, OTHER THAN SWEET -----	8,625	5,638		2,987		
TOMATOES -----	90	7,178			7,088	
VEGETABLES, FRESH, N.O.S., NOT FROZEN -----	2,159	13,584			11,425	
BEANS AND PEAS, DRIED -----	5,111	2,925		2,186		
VEGETABLES, DRIED, DEHYDRATED, AND EVAPORATED, N.O.S. -----	553	97		456		
VEGETABLES, FRESH, FROZEN -----	172	60		112		
PEANUTS -----	35	470			435	
SUGAR BEETS -----	229,899	224,640		5,259		
MALT, N.O.S. -----	53,876	8,688		45,188		
FLAXSEED -----	175,875	8,276		167,599		
SEEDS, N.O.S. -----	94,889	39,314	95	55,575		
PRODUCTS OF AGRICULTURE, N.O.S. -----	912	3,311			2,399	
TOTAL -----	5,322,499	955,232	1,607	4,480,339	113,072	4,367,267
ANIMALS AND PRODUCTS						
HORSES, MULES, PONIES AND ASSES -----	3,703	1,575		2,128		
CATTLE AND CALVES, SINGLE-DECK -----	150,022	19,932	1,679	130,090		
CALVES, DOUBLE-DECK -----	1,508	150		1,358		
SHEEP AND GOATS, SINGLE-DECK -----	5,359	2,012	61	3,347		
SHEEP AND GOATS, DOUBLE-DECK -----	390	204		186		
SWINE, SINGLE-DECK -----	79,094	36,793		42,301		
SWINE, DOUBLE-DECK -----	232	183		49		
MEATS, FRESH, N.O.S. -----	65,682	618	24	65,064		
MEATS, COOKED, CURED, DRIED, AND SMOKED -----	7,771	956		6,815		
PACKING HOUSE PRODUCTS, EDIBLE, N.O.S. -----	18,439	2,658	415	15,781		
MARGARINE, N.O.S. -----	175	2,191			2,016	
POULTRY, LIVE -----	66			66		
POULTRY, DRESSED AND FROZEN -----	2,285	172		2,113		
EGGS -----	1,347	277		1,070		
BUTTER -----	2,385	2,718			333	
CHEESE -----	217	3,232			3,015	
DAIRY PRODUCTS, N.O.S. -----	144	97		47		
WOOL AND MOHAIR IN GREASE -----	486	29		457		
WOOL AND MOHAIR, N.O.S. -----	422	64		358		
HIDES, SKINS, AND PELTS, N.O.S. -----	10,400	130		10,270		
LEATHER, N.O.S. -----		18			18	
SEA FOOD, N.O.S. -----	422	1,445			1,023	
FISH AND SEA ANIMAL OIL -----	184	103		81		

RAILWAY FREIGHT TRAFFIC - ALBERTA - 1957 (CONTINUED)

COMMODITIES	ORIGINATING AT BILLING STATIONS	TERMINATING AT RECEIVING STATIONS	DELIVERED TO FOREIGN CONNECTIONS RAIL - WATER	APPARENT EXPORTS	APPARENT IMPORTS	APPARENT NET
	TONS	TONS	TONS	TONS	TONS	TONS
ANIMALS AND PRODUCTS, N.O.S.	9,752	513	150	9,239		
TOTAL -----	260,485	76,070	2,329	290,820	6,405	284,415
PRODUCTS OF MINES						
ANTHRACITE COAL, N.O.S. -----	2,005	404		1,601		
ANTHRACITE COAL TO BREAKERS AND WASHED -----	170			170		
BITUMINOUS COAL -----	1,929,693	183,428	524	1,746,265		
COKE -----	63,584	14,838	78	48,746		
IRON ORE -----	1,211	314		897		
ALUMINUM ORE AND CONCENTRATES -----	357	959			602	
COPPER ORE AND CONCENTRATES -----	5,829	678		5,151		
COPPER-NICKEL (NICKEL) ORE AND CONCENTRATES -----	886	101,546			100,660	
LEAD ORE AND CONCENTRATES -----	131	5		126		
ZINC ORE AND CONCENTRATES -----	559	1,383	12,444		824	
ORES AND CONCENTRATES, N.O.S. -----	4,536	5,993			1,457	
BARYTES -----	12,858	31,928			19,070	
CLAY AND BENTONITE -----	1,380	77,729			76,349	
SAND, INDUSTRIAL -----	1,207	48,064			46,857	
GRAVEL AND SAND, N.O.S. -----	122,273	121,582	49	691		
STONE AND ROCK (BROKEN, GROUND, AND CRUSHED) -----	685,397	707,539			22,142	
FLUXING STONE AND RAW DOLOMITE -----	1,254	3,170			1,916	
STONE, ROUGH, N.O.S. -----	530	2,456			1,926	
STONE, FINISHED, N.O.S. -----	339	1,970			1,631	
PETROLEUM, CRUDE -----	249,817	236,322	1,726	13,495		
ASPHALT -----	60,338	61,342			1,004	
SALT -----	35,777	45,430			9,653	
PHOSPHATE ROCK -----	72	101,306			101,234	
SULPHUR -----	86,659	57,487		29,172		
ASBESTOS, NOT FURTHER PROCESSED THAN MILLED -----	46	831			785	
GYPSUM, CRUDE -----	2,294	67,408			65,114	
PRODUCTS OF MINES, N.O.S. -----	13,086	38,271	63		25,185	
TOTAL -----	3,282,288	1,912,383	14,884	1,846,314	476,409	1,369,905
PRODUCTS OF FORESTS						
LOGS, BUTTS, AND BOLTS -----	47,817	52,475			4,658	
POSTS, POLES, AND PILING, WOODEN -----	34,425	72,895			38,470	
WOOD FUEL -----	625	926			301	
TIES, RAILROAD -----	2,099	527		1,572		
PULPWOOD -----	94,284	5,537	115	88,747		
LUMBER, SHINGLES, AND LATH -----	270,092	244,264	266	25,828		
BOX, CRATE, AND COOPERAGE MATERIALS -----	809	693		116		
VENEER, PLYWOOD, AND BUILT-UP WOOD -----	4,811	42,384			37,573	
ROSIN AND TURPENTINE -----		247			247	
PRODUCTS OF FORESTS, N.O.S. -----	1,432	2,617			1,185	
TOTAL -----	456,394	422,565	381	116,263	82,434	33,829
MANUFACTURES AND MISCELLANEOUS						
GASOLINE -----	658,198	507,901	48	150,297		
FUEL, ROAD, AND PETROLEUM RESIDUAL OILS, N.O.S. -----	404,570	255,130		149,440		
LUBRICATING OILS AND GREASES -----	54,280	44,710		9,570		
PETROLEUM PRODUCTS, REFINED, N.O.S. -----	167,945	137,774	21	30,171		
GASES, OTHER THAN PETROLEUM, N.O.S. -----	79,012	11,573	182	67,439		
COTTONSEED OIL -----		89			89	
LINSEED OIL -----	447	403		44		
SUNFLOWER OIL -----		468			468	
VEGETABLE AND NUT OILS, N.O.S. -----	186	2,162			1,976	
OTHER OILS, N.O.S. -----	98	789			691	
OIL FOOTS, SEDIMENT, AND TANK BOTTOMS -----	226	74		152		
RUBBER, CRUDE, NATURAL, AND SYNTHETIC -----	93	27		66		
RUBBER GOODS, N.O.S. -----	64	814			750	
CHEMICALS, N.O.S. -----	51,637	35,920	955	15,717		
CELLULOSE AND PAPER -----	4,242	7,506			3,264	
ALUMINA, N.O.S. -----	10,014	5,409		4,605		
SODIUM (SODA) PRODUCTS -----	11,858	57,769			45,911	
ALCOHOL, N.O.S. -----	7,470	1,906		5,564		
BLACKS, N.O.S. -----	586	619	40		33	
FERTILIZERS, N.O.S. -----	240,674	44,214	4,020	196,460		
AMMONIUM SULPHATE, N.O.S. -----	447	1,341	39		894	
AMMONIUM NITRATE -----	986	12,144			11,158	
TAN -----	88	43		45		
PAINT, PAINT VARNISH -----	5,693	9,237			3,544	
PLASTICS -----	9,012	344		8,668		
CELLULOSE -----	90	11		79		
DRUGS -----						
PREPARED -----	34	636			602	

RAILWAY FREIGHT TRAFFIC - ALBERTA - 1957 (CONTINUED)

COMMODITIES	ORIGINATING	TERMINATING	DELIVERED	APPARENT	APPARENT	APPARENT
	AT BILLING STATIONS	AT RECEIVING STATIONS	TO FOREIGN CONNECTIONS RAIL - WATER	EXPORTS	IMPORTS	NET
	TONS	TONS	TONS	TONS	TONS	TONS
ALUMINUM (BAR, INGOT, PIG, AND SLAB) -----	23			23		
ALUMINUM, N.O.S. -----	774	2,221			1,447	
COPPER (INGOT, AND PIG) -----		39			39	
COPPER, BRASS, AND BRONZE, N.O.S. -----	719	2,514			1,795	
LEAD AND ZINC (BAR, INGOT, AND PIG) -----	152	2,795			2,643	
LEAD AND ZINC, N.O.S. -----		42			42	
ALLOYS FOR STEEL MANUFACTURE -----	82	503			421	
MATTE -----	125	1,240			1,115	
METALS AND ALLOYS, N.O.S. -----	8,553	610		7,943		
IRON, PIG -----	29	1,434			1,405	
IRON AND STEEL (BILLET, BLOOM, AND INGOT) -----	533	306		227		
IRON AND STEEL (BAR, ROD, AND SLAB) -----	3,449	49,494			46,045	
IRON AND STEEL, N.O.S. -----	590	1,855			1,265	
IRON AND STEEL NAILS AND WIRE (WOVEN AND NOT WOVEN) N.O.S. -----	838	12,896			12,058	
MANUFACTURED IRON AND STEEL -----	20,185	146,325	70		126,140	
CAST IRON PIPE AND FITTINGS -----	5,097	5,103			6	
IRON AND STEEL PIPE AND FITTINGS, N.O.S. -----	35,239	208,825	36		173,586	
TANKS, N.O.S. -----	1,966	6,957			4,991	
AGRICULTURAL IMPLEMENTS, N.O.S. --	2,163	23,379	30		21,216	
AGRICULTURAL IMPLEMENT PARTS, N.O.S. -----					781	
MACHINERY AND MACHINES, N.O.S. --	27,632	58,088	11		30,456	
MACHINERY PARTS -----	1,055	6,337			5,282	
BUSINESS AND OFFICE MACHINES, N.O.S. -----	27	51			24	
RAILWAY EQUIPMENT MOVED ON OWN WHEELS -----	462	1,173			711	
RAILWAY EQUIPMENT, S.U. NOT MOVED ON OWN WHEELS -----	288	262		26		
RAILWAY EQUIPMENT PARTS -----	441	1,383			942	
RAILS AND RAILWAY TRACK MATERIAL, IRON AND STEEL -----	684	6,710	26		6,026	
VEHICLES, OTHER THAN MOTOR -----	2,868	3,789			921	
AUTOMOBILES, PASSENGER -----	230	47,871			47,641	
AUTOMOBILES, FREIGHT -----	1,339	11,367			10,028	
VEHICLES, MOTOR, N.O.S. -----	3,351	13,961			10,610	
MILITARY VEHICLES, N.O.S. -----	327	635			308	
AUTOMOBILES AND AUTOTRUCKS, K.D. --	151	951	5		800	
VEHICLE PARTS, N.O.S. -----	377	6,174			5,797	
AIRPLANES, AIRCRAFT, AND PARTS -----	413	1,015			602	
TIRES AND TUBES, RUBBER -----	290	7,228			6,938	
GUNS, SMALL ARMS, AND PARTS, N.O.S. -----	10	48			38	
AMMUNITION AND EXPLOSIVES -----	6,024	5,426		598		
CEMENT (NATURAL AND PORTLAND) -----	312,972	267,365		45,607		
CEMENT, N.O.S. -----	12,926	15,006			2,080	
BRICK, COMMON -----	7,728	5,800		1,928		
BRICK, N.O.S. AND BUILDING TILE -----	67,515	46,107		21,408		
REFRACTORIES -----	902	6,834	37		5,932	
ARTIFICIAL STONE, N.O.S. -----	6,436	5,475		961		
LIME, N.O.S. -----	12,638	10,741		1,897		
PLASTER (STUCCO AND WALL) -----	4,024	8,312			4,288	
SEWER PIPE AND DRAIN TILE (NOT METAL) -----	13,617	10,972		2,645		
BROKEN OR GROUND BRICK, BLOCKS, CROCKERY, AND GLASS -----		1,462			1,245	
WOODPULP -----	35,907	9,192	51	26,715		
SCRAP PAPER AND RAGS -----	3,358	2,002		1,356		
NEWSPRINT PAPER -----	393	20,650	236		20,257	
PRINTING PAPER, N.O.S. -----	148	3,303			3,155	
WRAPPING PAPER -----	537	3,891			3,354	
PAPER BAGS -----	2,658	6,636			3,978	
PAPER AND PAPER ARTICLES, N.O.S. -----	797	12,582			11,785	
PRINTED MATTER, N.O.S. -----	26	2,636			2,610	
PAPERBOARD, FIBREBOARD, AND PULPBOARD -----	3,342	17,361			14,019	
WALLBOARD -----	17,130	56,695	59		39,565	
BUILDING PAPER AND PREPARED ROOFING MATERIALS -----	5,551	12,501			6,950	
INSULATING MATERIALS, N.O.S. -----	5,927	11,531			5,604	
BUILDING WOODWORK AND MILLWORK -----	202	2,967			2,765	
BUILDING MATERIALS, N.O.S. -----	3,583	6,142			2,559	
BUILDINGS AND HOUSES, FABRICATED AND PORTABLE, N.O.S. -----	52	1,798			1,746	
ASBESTOS ARTICLES, N.O.S. -----	35	497			462	
ELECTRICAL EQUIPMENT AND PARTS, N.O.S. -----	973	8,187			7,214	
FURNACES, HEATERS, RADIATORS, AND PARTS -----	146	4,697			4,551	
BATHROOM AND LAVATORY FIXTURES AND SINKS -----	96	2,032			1,936	
HARDWARE, N.O.S. -----	317	2,446			2,129	
GLASS -----	131	6,389			6,258	
GLASSWARE, N.O.S. -----	435	1,545			1,110	
GLASS BOTTLES, JARS, AND PACKING GLASSES, N.O.S. -----	15,784	1,117		14,667		

RAILWAY FREIGHT TRAFFIC - ALBERTA - 1957 (CONTINUED)

COMMODITIES	ORIGINATING	TERMINATING	DELIVERED	APPARENT	APPARENT	APPARENT
	AT BILLING STATIONS	AT RECEIVING STATIONS	TO FOREIGN CONNECTIONS RAIL - WATER	EXPORTS	IMPORTS	NET
	TONS	TONS	TONS	TONS	TONS	TONS
CROCKERY, CHINA AND GLASS						
WARE -----	332	487			155	
WOODWARE -----	75	284			209	
HOUSEHOLD UTENSILS, N.O.S. -----	316	452			136	
REFRIGERATOR, FREEZER APPARATUS, AND PARTS -----	98	6,231			6,133	
LAWN EQUIPMENT -----	30	1,953			1,923	
STOVES, RANGES, AND PARTS -----	80	2,676			2,596	
FLOOR COVERING -----	1,169	6,155			4,986	
FURNITURE, N.O.S. -----	726	9,772			9,046	
FURNITURE PARTS -----	78	416			338	
TOOLS AND PARTS, N.O.S. -----	172	300			128	
ABRASIVES, OTHER THAN CRUDE -----		40			40	
BAGGING (BURLAP, COTTON, GUNNY, AND JUTE,) N.O.S. -----	104	461			357	
BAGS (BURLAP, COTTON, GUNNY, AND JUTE,) N.O.S. -----	109	405			276	
COTTON CLOTH AND COTTON FABRICS, N.O.S. -----	6	105			99	
COTTON FACTORY PRODUCTS -----	129	766			637	
SYNTHETIC FIBRE AND YARNS (RAYON AND NYLON) -----	1,290	26		1,264		
CLOTH AND FABRICS, N.O.S. -----	250	1,517			1,257	
ROPE, CORDAGE, AND BINDER TWINE, N.O.S. -----	58	5,263			5,205	
BOOTS, SHOES, AND FINDINGS, N.O.S. -----		177			177	
LUGGAGE AND HANDBAGS, N.O.S. -----		24			24	
ATHLETIC, GYMNASIUM, PLAYGROUND, AND SPORTING EQUIPMENT, N.O.S. -----	19	111			92	
GAMES AND TOYS -----		20			20	
LIQUORS, ALCOHOLIC, N.O.S. -----	3,181	9,700			6,519	
WINE -----	443	1,916			1,473	
LIQUORS, MALT -----	8,024	7,449		575		
BEVERAGES, N.O.S. -----	158	237			79	
ICE -----	1,610	1,689			79	
SYRUP AND MOLASSES, REFINED -----	3,977	5,000			1,023	
MOLASSES, RESIDUAL -----	5,663	2,902	874	2,761		
SUGAR -----	66,611	48,061	118	18,550		
CANDY AND CONFECTIONERY -----	534	5,124			4,590	
FOOD PRODUCTS, N.O.S., IN CANS AND PACKAGES, NOT FROZEN -----	8,390	90,667			82,277	
FOOD PRODUCTS, N.O.S., FROZEN -----	535	852			317	
STARCH -----	65	1,372			1,307	
SOAP AND CLEANING AND WASHING COMPOUNDS -----	275	13,601			13,326	
MATCHES -----		590			590	
FEED, ANIMAL AND POULTRY, N.O.S. -----	38,736	15,887	60	22,849		
MANUFACTURED TOBACCO, N.O.S. -----		1,126			1,126	
CIGARETTES -----	47	4,064			4,017	
CONTAINERS, METAL -----	634	11,248			10,614	
CONTAINERS, WOODEN -----	1,018	445		573		
CONTAINERS, FIBREBOARD AND PAPER- BOARD, K.D. -----	1,354	2,905			1,551	
CONTAINERS, N.O.S. -----	675	1,923			1,248	
CONTAINERS, RETURNED EMPTY -----	3,861	6,070			2,209	
SCRAP IRON AND SCRAP STEEL -----	81,757	50,921		30,836		
IRON AND STEEL BORINGS, TURNINGS, ETC. -----	1,006	884		122		
FURNACE SLAG -----	7	1,722			1,715	
WASTE MATERIALS FOR REMELTING, N.O.S. -----	4,538	2,429		2,109		
WASTE MATERIALS, N.O.S. -----	3,832	8,752			4,920	
MANUFACTURES AND MISCELLANEOUS, N.O.S. -----	266,836	398,411	138		131,575	
TOTAL -----	2,880,898	3,088,381	7,056	843,957	1,051,440	207,483
GRAND TOTAL, CARLOAD TRAFFIC ---	12,302,564	6,454,631	26,257	7,577,693	1,729,760	5,847,933
ALL L.C.L. FREIGHT ---	100,644	111,761	1,142		11,117	11,117
GRAND TOTAL - 12 MONTHS 1957 - CUMULATIVE -----	12,403,208	6,566,392	27,399	7,577,693	1,740,877	5,836,816

AVIATION

Aviation is important and well developed in Alberta. It is a key method of transport in the northern sections of the province. Several air routes spread out to adjoining provinces, the United States, Europe, and the north country. The practical use of aircraft in the north country was realized during the 1920's and since that time there has been a steady development of the aviation industry in Alberta. The latter was one of the greatest propelling forces of exploration and exploitative development of northern Alberta and the N.W.T.

The second, but no less important role, that aviation played was that of shrinking the distance between eastern Canada and the population centre of the west; air travel has brought the major centres of the nation within hours, rather than days.

There are three airways and two air routes which pass through and serve the Province of Alberta; they are:—

- AIRWAY GREEN 1 — From St. Johns, Newfoundland to Vancouver, British Columbia, it passes through Medicine Hat, Lethbridge and Cowley (near Pincher Creek).
- AIRWAY AMBER 2 — From Great Falls, Montana to Fairbanks, Alaska, it passes through Lethbridge, Calgary, Penhold, Edmonton and Grande Prairie.
- AIRWAY RED 6 — From Edmonton, Alberta to McGregor, Manitoba (near Winnipeg), it passes through Edmonton, Vermilion and Lloydminster.
- AIR ROUTE BLUE 84 — From Edmonton, Alberta to Yellowknife, N.W.T., it passes through Edmonton, McMurray and Embarras.
- AIR ROUTE BLUE 7 — From Grande Prairie, Alberta to Hay River, N.W.T., it passes through Grande Prairie, Peace River and Fort Vermilion.

In order to allow more direct flights between Edmonton, Alberta and Vancouver, British Columbia, a new air route from Edmonton to Princeton, British Columbia will be established in the very near future; this air route will join Airway Green 1 at Princeton, B.C.

Site selection for a new airport at Medicine Hat is now being carried out and construction may commence in 1959; construction on the new Edmonton International Airport at Nisku, Alberta, is well under way. Also, the extension and reconditioning of the dirt runways at Peace River, Alberta, is under review at this time.

As in past years, it is anticipated that there will be the construction of numerous private landing strips by various oil companies in the Alberta bushland. These strips are of a temporary nature and are made for serving certain exploration projects; they are not licensed or recorded and once the project is completed the strip is abandoned.

With the exception of the above mentioned projects, no other major civil aviation developments are expected in Alberta in the near future.

The substantial increase in air freight traffic resulted, to a large extent, from the requirements of light industries. The products of these industries are frequently fragile, perishable, of high intrinsic value, and hence high retail value, and the speed of air service can mean savings in total costs which more than offset the initially higher transportation charges. By reducing time in transit, air transportation has been able to compete effectively with railway express service and motor carrier service, at rates which are substantially higher than those of its competitors.

An additional factor in the expanding use of air carriers by industry is the unpredictability of demand, plus a desire to give special service. A manufacturer who is faced with an emergency requirement for some part or component at a distant scene of operations may decide to make use of air freight as a means of customer service.

Air freight will continue to increase in the next quarter century, but it is not anticipated that new services will be established unless their cost to the shipper is considerably reduced. With a heavier volume to handle in the future, airlines may operate a type of aircraft which would offer lower rates. It is very probable that new and larger types of aircraft specially designed to carry freight will be developed.



ALBERTA GOVERNMENT PHOTOGRAPH

Aircraft based at the Edmonton airport have been instrumental in opening up the Canadian North.



ALBERTA GOVERNMENT PHOTOGRAPH

Crude oil from these terminals at Edmonton flows by pipeline to Vancouver and to Eastern Canada.

Table 51. MAIN AIRPORTS - ALBERTA

Airports	Runways	Radio Aids	Weather	Services
Medicine Hat	Hard surfaced 4,400' x 150' 2,820' x 100' 2,750' x 100'	Low Frequency Range	Continuous Meteorological Teletype Service	Hangar Maintenance Repair Gas and Oil Telephone, Telegraph Bus and Taxi Customs port of entry and exit
Lethbridge	Hard surfaced 5,755' x 150' 4,525' x 150' 5,512' x 150'	Low Frequency Range Instrument Landing System	Continuous Meteorological Teletype Service	Hangar Minor Repairs Gas and Oil Telephone, Telegraph Bus and Taxi Customs port of entry and exit
Calgary	Hard surfaced 8,675' x 150' 6,200' x 150' 3,635' x 150'	Low Frequency Range 2 Instrument Landing Systems	Continuous Forecast Service	Hangar Repairs Gas and Oil Telephone, Telegraph Bus and Taxi Customs port of entry and exit
Edmonton	Hard surfaced 4,451' x 200' 5,700' x 200' 5,868' x 200'	Low Frequency Range Instrument Landing System	Continuous Forecast Service	Hangar Maintenance Repair Gas and Oil Telephone and Telegraph Bus and Taxi Customs port of entry and exit
Grande Prairie	Hard surfaced 6,200' x 200' 6,500' x 200'	Low Frequency Range	Continuous Meteorological Teletype Service	Hangar Gas and Oil Telephone, Telegraph and Taxi
McMurray	Hard surfaced 6,000' x 150'	Low Frequency Beacon	Continuous Meteorological Teletype Service	Gas and Oil Telephone, Telegraph and Taxi

Note: These are instrument airports usable day and night all year, with air-ground radio communications.

WATER TRANSPORTATION

Commercial water transportation is confined to that portion of Alberta north of McMurray on the Athabasca River. For points on Lake Athabasca, and for points down the Slave River, freight is shipped to McMurray by the Northern Alberta Railways and transhipped by barges to its destination. Goods for Fort Smith and points further north have to be unloaded at Fitzgerald and trucked over the 16-mile portage. During 1957, 10,458 tons of southbound and 134,174 tons of northbound freight were handled at the McMurray transhipment point.

Northern Transportation Co. Ltd. employs around 425 people in all its operations in and north of McMurray. McInnes Products Corporation employs in the neighborhood of 20 to 25. Yellowknife Transport, operating only out of Hay River, employs in the neighborhood of 60 people.

All three companies handle tonnage out of Hay River. Until the road is completed to Yellowknife, all tonnage destined to that town will be transhipped from Hay River by winter road or by boat. During 1957, 8,397 tons of southbound and 26,407 tons of northbound freight were handled at the Hay River transhipment point.

In 1957, approximately 93 per cent of all freight moving in the north was by water transport. In 1938, a maximum of 10,000 tons was carried to, from, and within the North: the corresponding volume in 1957 was 222,284 tons. Of the 179,436 tons of freight moved to and from the North during the 1957 season, 90 per cent moved northbound and 10 per cent southbound, representing backhaul.

This tremendous increase in tonnage during the last decade has necessitated large expenditures by the water transportation companies. In the last ten years, capital expenditures amounted to \$14,366,000.

The increased volume of freight, however, has been accompanied by an average reduction of 33.1 per cent in general merchandise rates in the decade. Water transportation still remains the most economical means of transporting goods where perishability and rapid delivery are not important factors.



COURTESY OF NORTHERN TRANSPORTATION CO. LTD.

Tugboats ply northern waters, supplying mines and settlements.



NORTHERN TRANSPORTATION CONNECTIONS ORIGINATING IN ALBERTA

ECONOMIC DEVELOPMENT IN THE CANADIAN NORTH

The Canadian North has its own unique pattern of resource endowment and also its own distinctive conditions under which these may be developed. Most of the earlier Canadian pioneering development progressed from one state to another, conforming more or less to a given pattern. It was a matter of pushing on further and further into new areas; first on the fur frontier, later, and more particularly, on the agricultural frontier. The pattern followed in the development of the Canadian West will hardly repeat itself. Ultimately northern development will likely depend on the large corporation concerned with developing specific areas on a large scale. The resources of the area for many years will become evident in more or less isolated "pockets", unsuited to any other type of development because of their economic isolation.

Another condition peculiar to the Canadian North is the likely nature of production for export purposes.

Agricultural production is unlikely to grow beyond supplying a part of local needs. The raising of livestock may prove feasible. Shipments of agricultural products would be only northward within the area. The agricultural industry may grow in absolute, but not in relative size as the population increases.

The forest products industry has a brighter future. Existing stands of timber could make the area self-sufficient for selected forest products. Residential, mining and service industry construction in the north could be supplied, in the main, from within the Mackenzie District. Timber stands in the Slave and Liard River valleys are situated in close proximity to the area where most of the early development of the north can be expected. They are also reasonably close to existing main routes of water transportation.

There is a big market future for petroleum products for heating and for motor fuels (for tugs, railways, aircraft, and trucks). For isolated developments of small and medium size, generation of electrical power by oil or gas will be an economic possibility.

The key to the development of the Mackenzie District is the mining industry. This is the only export industry of any great potential size. Any argument that it is economically important to develop the Canadian North must hang on the belief that the world's demand for minerals is increasing more rapidly than the ability to supply at current costs from present sources.

The northland is a treasure house of minerals and raw materials. Virtually every known metal can be found but to date relatively little prospecting and drilling has been carried out. So far only high value metals have been exploited. There are large reserves of base metals (zinc, lead and copper) in the area. Most of the known reserves are in the Great Slave Lake area. The expected development in the mining industry centres around these base metals. This has very definite implications for transportation since base metal ore is heavy and bulky, and consequently of low value per unit weight or volume.

The Mackenzie District will slowly develop as an integrated industrial area. Initially only "pocket" development by large corporations, economically motivated, should be expected. Some secondary industries and commercial services may be developed but this is likely only after the other developments have reached a larger scale and population has increased sufficiently to warrant local centres for distributive services. Base metal ore as a cargo for the main transportation artery to the outside may be replaced by more general cargoes required for the more diversified internal industrial expansion. The role of transportation may change but the overall demand for transportation services is not likely to decrease.

At present each of the conventional types of transportation is used to some extent in one or other of the various regions of the north. Careful integration of the various types is required to ensure adaptation to changing needs.

TABLE 52. MINERAL PRODUCTION IN THE NORTHWEST TERRITORIES, 1947 - 1957

	GOLD		SILVER		URANIUM		COPPER	
	FINE OZ.	\$	FINE OZ.	\$	LB.	\$	LB.	\$
1947	62,517	2,188,095	45,355	32,655	—	—	—	—
1948	101,625	3,556,875	25,382	19,036	—	—	—	—
1949	177,493	6,389,748	70,505	52,350	—	—	—	—
1950	200,663	7,635,227	62,111	50,198	—	—	—	—
1951	212,211	7,819,975	64,228	60,728	—	—	1,934	536
1952	247,581	8,484,601	59,258	49,492	—	—	6,900	1,969
1953	289,929	9,979,356	63,592	53,424	—	—	—	—
1954	308,563	10,512,741	59,037	49,152	—	—	—	—
1955	321,321	11,092,001	58,477	51,565	—	—	—	—
1956	352,669	12,149,447	69,916	62,701	873,912	9,176,076	—	—
1957 *	338,721	11,360,702	66,165	57,782	850,000	8,925,000	285,858	82,699

	PETROLEUM		NATURAL GAS		PITCHBLLENDE	OTHER	TOTAL VALUE
	BBLs.	\$	M, CU, FT.	\$			
1947	227,474	500,238	—	—	—	—	2,720,988
1948	350,541	676,574	150,000	15,000	—	—	4,267,485
1949	155,528	353,108	65,234	6,523	—	—	6,801,729
1950	186,729	352,656	33,335	12,818	—	—	8,050,899
1951	227,449	399,887	19,333	7,621	—	—	8,288,747
1952	314,217	379,160	24,847	9,698	—	19,915	8,944,835
1953	316,689	257,251	26,109	10,199	—	—	10,300,230
1954	369,887	344,960	29,085	9,700	15,486,157	11,290	26,414,000
1955	404,219	1,185,780	18,670	6,213	13,232,079	30,183	25,597,821
1956	449,409	762,773	21,210	6,938	—	—	22,157,935
1957 *	428,000	736,160	18,500	6,050	—	797,540	21,965,933

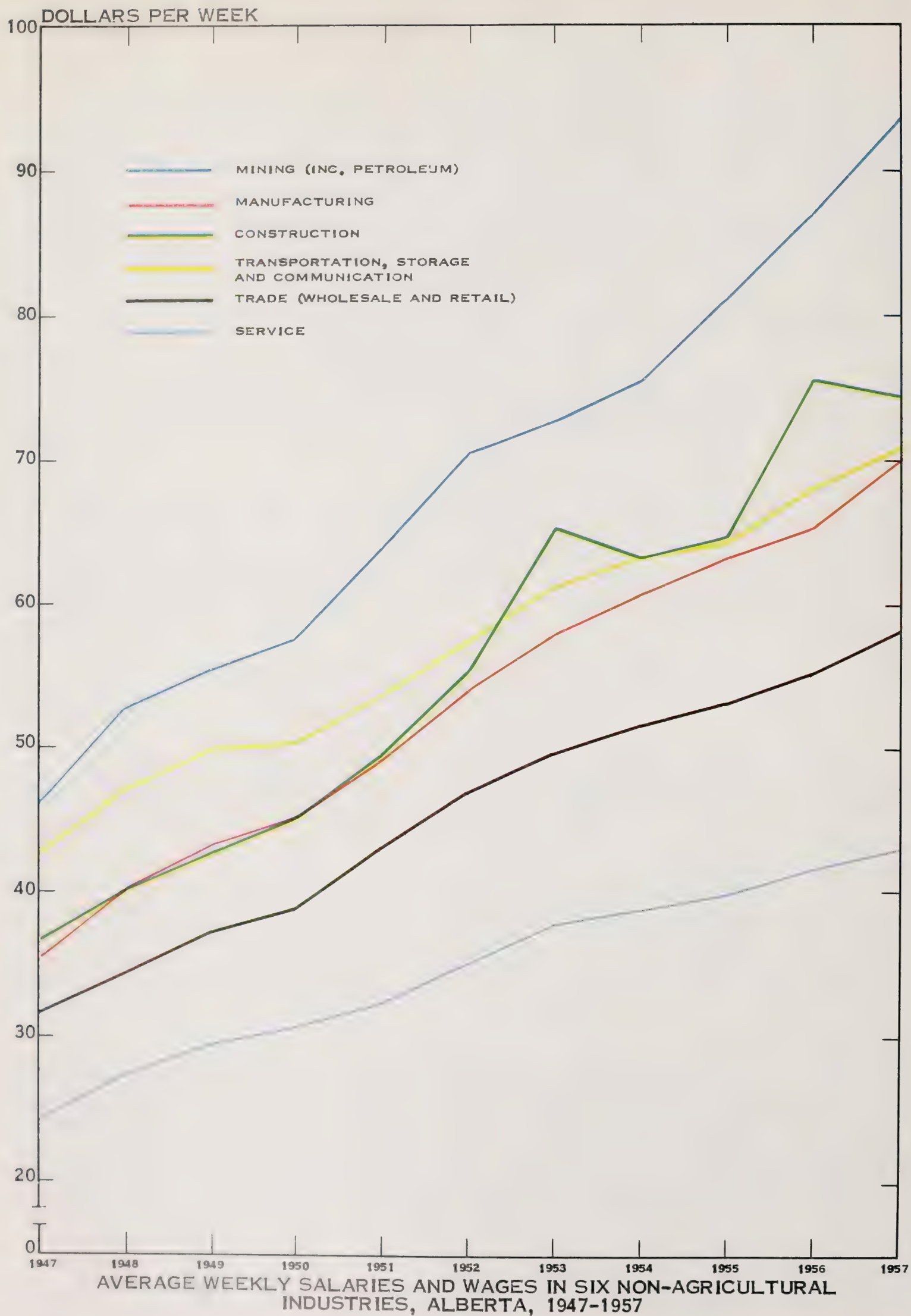
* Preliminary

TABLE 53. MINERAL PRODUCTION IN THE YUKON TERRITORY, 1947 - 1957

	CADMIUM		COAL		GOLD		LEAD	
	LB.	\$	TONS	\$	FINE OZ.	\$	LB.	\$
1947	—	—	—	—	47,745	1,671,075	1,145,256	156,556
1948	—	—	3,801	25,857	60,614	2,121,490	4,598,665	829,599
1949	—	—	3,156	29,382	81,970	2,950,920	5,356,405	846,312
1950	56,410	130,871	3,703	40,960	93,339	3,551,549	12,885,518	1,861,957
1951	66,452	178,091	3,696	60,597	77,504	2,856,022	12,533,071	2,306,085
1952	129,490	284,878	8,442	139,345	78,519	2,690,846	18,368,643	2,973,883
1953	238,426	476,852	10,661	169,736	66,080	2,274,474	31,590,973	4,083,449
1954	252,853	429,850	14,113	202,772	82,208	2,800,826	33,765,290	4,500,913
1955	211,808	360,074	7,040	81,806	72,201	2,492,379	26,248,786	3,774,575
1956	244,628	415,868	9,372	111,104	72,001	2,480,434	25,604,220	3,971,215
1957 *	164,165	279,080	8,131	96,299	69,954	2,346,257	25,095,537	3,503,337

	SILVER		TUNGSTEN		ZINC		TOTAL VALUE
	FINE OZ.	\$	LB.	\$	LB.	\$	
1947	372,051	267,877	—	—	—	—	2,095,508
1948	1,718,618	1,288,964	—	—	—	—	4,265,910
1949	1,562,730	1,160,327	—	—	847,246	112,235	5,099,176
1950	3,202,779	2,588,486	—	—	5,507,173	861,873	9,035,696
1951	3,442,788	3,255,156	2,833	7,098	5,678,999	1,130,121	9,793,170
1952	4,028,551	3,364,646	—	—	11,070,178	1,932,853	11,386,451
1953	6,639,127	5,577,530	1,704	475	18,027,139	2,156,046	14,738,562
1954	6,992,279	5,821,562	—	—	23,645,588	2,832,741	16,588,664
1955	5,712,219	5,037,035	—	—	21,823,307	2,978,881	14,724,750
1956	6,192,706	5,553,619	—	—	21,052,518	3,124,194	15,656,434
1957 *	6,313,278	5,513,386	—	—	17,475,430	2,112,779	13,851,138

* Preliminary.



LABOUR

It is the philosophy of the Government of Alberta that cooperation between management, labour and government is essential to industrial harmony. To promote this harmony it has been the government's policy that all changes in legislation, either in the Labour Act itself or in the orders and regulations stemming from the Act, be discussed with labour and management and public bodies concerned before any amendments are made. As a result, labour legislation in Alberta is modern, tailored to fit the trend of the times and conducive to the establishment and maintenance of industrial peace.

The record of industrial peace in Alberta is an indication of the soundness of the Alberta Labour Act and its acceptance by employers, employees and the public in general. According to the Federal Department of Labour, over a period of many years the number of man days lost through work stoppages in relation to industrial working time is lower than for any other province: it is less than one-half of one per cent.

Work stoppages have been rare. Almost 80 percent of all disputes have been settled at the conciliation tables. Since 1950 there have been only 23 legal strikes; and illegal work stoppages, except for flash-in-the-pan affairs, are almost unknown.

There can be no doubt that this industrial harmony has become a proud tradition and has proven to be an encouraging factor in influencing potential investors.

The Alberta Labour Act governs labour-management relations and the administration of the Act is carried out by the Board of Industrial Relations. The Act consists of seven parts, covering: Hours of Work; Minimum Wages; Holidays with Pay; Industrial Standards; Conciliation and Arbitration; Equal Pay; and a General Section.

This Act applies to all employees in the province except persons who are farm labourers or domestic servants in private homes, and their employers.

APPRENTICESHIP TRAINING:

Alberta offers an established Apprentice Training Programme in many trades. Apprentices are indentured to employers who provide on-the-job training and experience. Technical school training is provided by the Apprenticeship Board at schools in Calgary. The various courses are established and periodically reviewed by Trade Advisory Committees and educational authorities.

The Alberta Apprenticeship Act was passed by the Provincial Legislature in 1944 and makes provision for a trade to apply for designation under the Act. Early in 1959 the provisions of the Act applied to nineteen different trades in the province. At March 31, 1949 the total number of registered apprentices was 1519; by March 31, 1953 it had grown to 2607; by 1956, 3680, and at time of writing the figure is at an all-time high of 4451. Since 1944 the programme has graduated 5500 tradesmen; nearly 700 of these in the calendar year 1958.

A province-wide system of Journeyman certification is also well established. In certain trades where matters of safety and health are of prime consideration, the Journeyman's certificate is required by regulations. Learners in these trades must be indentured in accordance with the Alberta Apprenticeship Act.

A table in this section sets forth the names of the designated trades, the length of apprenticeship in each, and the number of apprentices registered as of March 31, 1959.

LABOUR ORGANIZATION:

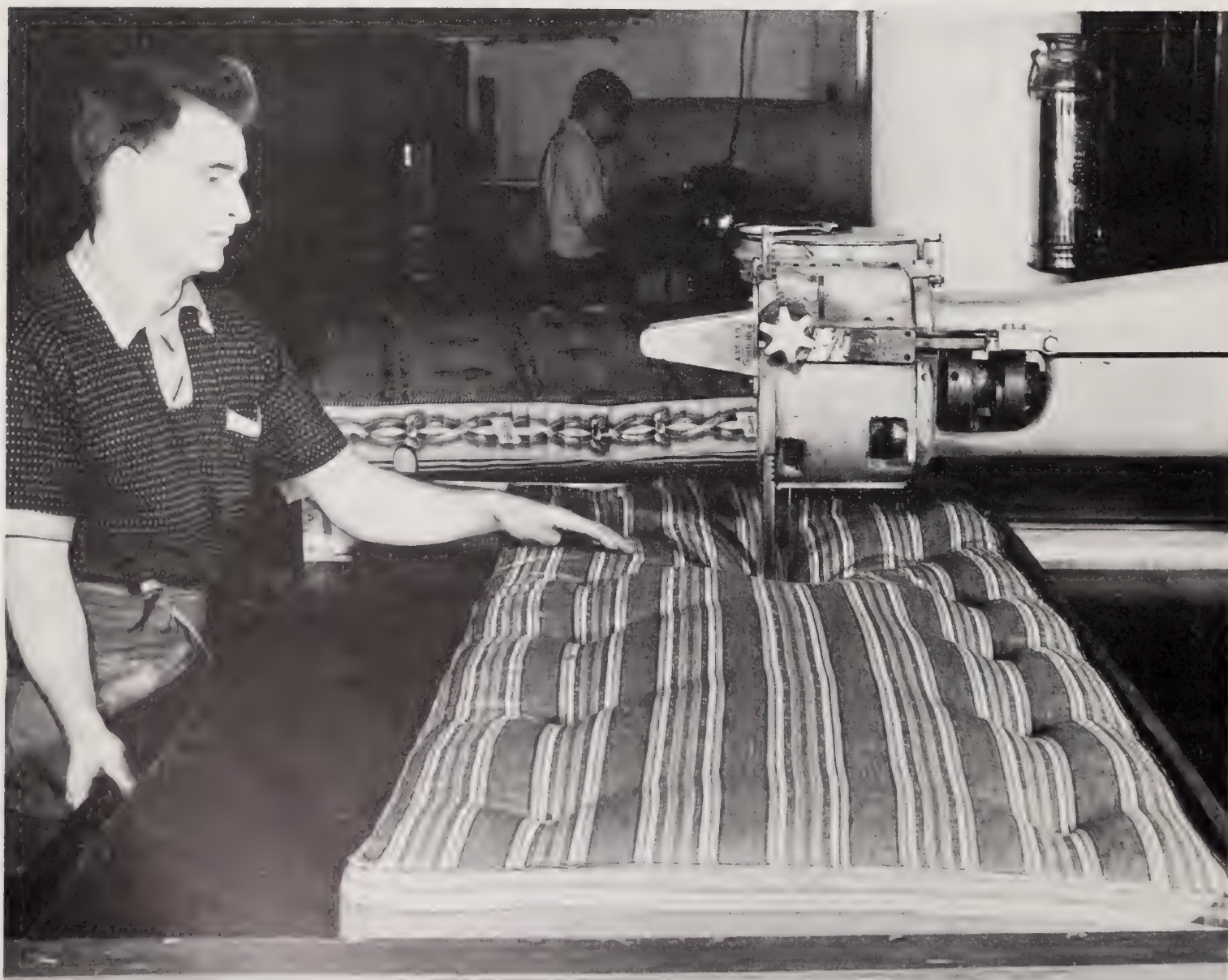
Another table shows the number of local unions in Alberta and the membership reported. It should be noted that the membership figures are not exactly comparable from year to year as some of the union locals do not report every year. However, the membership figures give some indication of union strength in the province.

WAGE RATES:

The tables showing wage rates are intended to give some indication of the prevailing wage rates in the province. Only a few specified classifications are shown and no attempt has been made to present an all-inclusive list of wage-earning occupations.

An annual Salary and Wage Rate Survey is conducted by the Alberta Bureau of Statistics each year in May. Wage and salary rates are shown by size of firm and by industry for the four major cities, and the province. Information on Working Conditions and Benefits, and Fringe Benefit costs by industry, is also available. The reports are issued on request without charge.

The graph on page 182 shows the average weekly salaries and wages for major industrial groups in Alberta for the period 1947-1957.



ALBERTA GOVERNMENT PHOTOGRAPH

Household articles produced in an Edmonton plant

TABLE 54. RANGES AND WEIGHTED AVERAGES OF WAGES, BY POSITION
ALBERTA, CALGARY AND EDMONTON, AS AT 1 MAY 1958

		ALBERTA		CALGARY		EDMONTON	
		WEIGHTED AVERAGE	RANGE	WEIGHTED AVERAGE	RANGE	WEIGHTED AVERAGE	RANGE
		\$ (PER MO.)	\$ (PER MO.)	\$ (PER MO.)	\$ (PER MO.)	\$ (PER MO.)	\$ (PER MO.)
GENERAL (INTERMEDIATE) CLERK	M	318	240-401	323	240-400	311	240-401
	F	223	167-300	224	167-300	226	167-300
JUNIOR CLERK TYPIST	F	193	156-236	198	156-236	190	160-236
STENOGRAPHER	F	238	190-281	246	190-281	233	190-280
BOOKKEEPER	M	369	260-485	372	265-485	371	260-485
	F	244	190-325	251	195-325	245	195-320
TELEPHONE OPERATOR	F	201	160-250	206	165-250	197	160-250
CALCULATING MACHINE OR COMPTOMETER OPERATOR ..	M	233	205-283	231	205-283	237	220-262
	F	219	185-260	219	185-260	220	185-260
KEYPUNCH OPERATOR	F	236	191-274	246	195-274	227	191-270
DRAFTSMAN	M	357	275-445	359	275-445	355	275-444
NURSE	F	260	240-315	263	240-315	261	240-315
SALESCLERK - SMALLWARES	F	171	139-199	169	139-195	176	139-199
HARD GOODS SALESPERSON	M	270	230-325	269	230-314	270	240-325
	F	179	147-220	179	150-220	185	147-220
GROCERY CASHIER	F	214	160-247	217	169-247	213	160-247
WAREHOUSE ORDER DESK CLERK	M	250	170-335	237	170-311	258	175-335
	F	198	150-225	210	185-225	-	-
WAREHOUSE QUOTATION CLERK	M	278	220-335	282	220-329	276	224-335
WAREHOUSE PACKER	M	221	172-282	226	173-275	215	175-282
WAREHOUSE SHIPPING CLERK	M	256	200-303	257	200-303	256	200-303
ELEVATOR OPERATOR	M	224	193-275	211	193-280	231	194-275
PAYROLL CLERK	M	304	235-375	299	235-370	323	250-375
	F	246	195-340	253	195-340	237	195-310
PURCHASING AGENT	M	388	292-550	401	300-535	384	292-550
		¢ (PER HR.)	¢ (PER HR.)	¢ (PER HR.)	¢ (PER HR.)	¢ (PER HR.)	¢ (PER HR.)
LABOURER	M	151	130-175	152	130-175	151	130-175
	F	79	65-100	-	-	-	-
LABOUR FOREMAN	M	188	160-230	185	160-230	197	160-230
LIGHT TRUCK DRIVER	M	159	120-185	161	125-185	159	120-185
MEDIUM TRUCK DRIVER	M	149	-	-	-	-	-
HEAVY EQUIPMENT OPERATOR	M	176	150-215	177	150-215	175	150-207
FOREMAN MECHANIC OR SERVICE MANAGER	M	203	180-220	210	180-220	183	180-196
AUTOMOBILE MECHANIC	M	190	175-200	192	175-200	190	175-200
TRADESMAN'S HELPER	M	160	138-184	161	140-175	162	140-180
JANITOR	M	136	105-163	147	115-163	133	105-160
	F	123	110-148	-	-	-	-
3RD CLASS SHIFT STATIONARY ENGINEER	M	204	171-226	195	175-216	212	183-226
2ND CLASS SHIFT STATIONARY ENGINEER	M	234	221-259	239	221-259	229	221-244
CARPENTER	M	219	180-245	219	180-245	223	183-235

TABLE 55. BUILDING AND CONSTRUCTION INDUSTRY HOURLY WAGE SCHEDULE, ALBERTA
(AS AT JANUARY 1, 1959)

CLASSIFICATION	CALGARY AND BANFF	EDMONTON AND ZONE	LETHBRIDGE	MEDICINE HAT AND SUFFIELD	OTHER POINTS
	\$	\$	\$	\$	\$
BUILDERS ON CONSTRUCTION OR ERECTION	2.65	2.65	2.65	2.65	2.65
BRICKLAYERS AND STONEMASONS	2.60	2.60	2.35	2.30	2.35
CARPENTERS AND JOINERS	2.35	2.35	2.20	2.05	2.00
CEMENT FINISHERS	1.90	2.20	1.60	1.60	1.60
COMPRESSOR OPERATORS	1.75	1.65	1.45	1.45	1.45
CONCRETE MIXER OPERATORS	1.85	1.65	1.50	1.45	1.45
ELECTRICIANS (INSIDE WIREMEN)	2.55	2.65	2.40	2.00	2.00 (H)
ELEVATOR CONSTRUCTORS	2.51	2.56	2.51	2.51	2.51
FIREMEN	1.65	1.60	1.45	1.45	1.45
GRADER OPERATORS	1.85	1.85	1.85	1.85	1.85
INSULATION MECHANICS (HEAT AND FROST UNITS)	2.35	2.35	2.35	2.35	2.35
INSULATION WORKERS (GENERAL)	1.75	1.70	1.45	1.35	1.40
LABOURERS	1.65	1.60	1.35	1.20	1.25
LATHERS (WOOD, WIRE, METAL)	2.45	2.37	2.00	1.90	2.00
LINOLEUM LAYERS	1.75	1.75	1.60	1.50	1.50
OILERS (CONSTRUCTION EQUIPMENT)	1.65	1.60	1.45	1.45	1.45
OPERATORS (DRAGLINES, CRANES, SHOVELS, ETC.)	2.15	2.15	2.15	2.15	2.15
ORNAMENTAL IRON ERECTORS	2.45	2.45	2.45	2.45	2.45
PAINTERS, BRUSH	2.05	-	-	-	-
PAINTERS AND GLAZIERS	-	2.00	1.85	1.80	1.75
PAINTERS (SPRAY)	2.25	2.25	1.95	2.00	1.85
PIPELAYERS, CAULKERS AND SOLDERERS	1.70	1.65	1.45	1.30	1.30
PLASTERERS	2.45	2.50	2.25	2.25	2.35
PLUMBERS AND STEAMFITTERS' HELPERS	1.65	1.65	1.40	1.30	1.30
ROOFERS (BUILT-UP)	1.65	1.75	1.45	1.30	1.35
SHEET METAL WORKERS	2.45	2.60	2.30	2.00	2.00 (G)
STRUCTURAL STEEL ERECTORS	2.45	2.45	2.45	2.45	2.45
TERRAZZO LAYERS	2.50	2.50	2.50	2.50	2.50
TRACTOR OPERATORS (LARGE)	1.85	1.85	1.85	1.85	1.85
TRACTOR OPERATORS (SMALL)	1.70	1.65	1.50	1.50	1.50
TRUCK DRIVERS	1.65	1.60	1.40	1.25	1.35
WATCHMEN	1.00	1.00	.90	.90	.90
WELDERS AND BURNERS (ACETYLENE OR ELECTRIC)	1.90	1.90	1.80	1.80	1.80
WELDERS AND BURNERS (STEEL ERECTION)	2.45	2.45	2.45	2.45	2.45

(G) RED DEER - \$2.20

(H) WAINWRIGHT - \$2.05

LATHERS (GYPROC) - \$2.22

TABLE 56. APPRENTICES REGISTERED WITH THE PROVINCIAL APPRENTICESHIP BOARD, BY TRADE AND YEAR OF APPRENTICESHIP TRAINING, ALBERTA, AS AT MARCH 31, 1959

TRADE	LENGTH OF APPRENTICESHIP IN YEARS	TOTAL NUMBER REGISTERED IN EACH TRADE	NUMBER REGISTERED IN EACH YEAR OF APPRENTICESHIP			
			1ST	2ND	3RD	4TH
	YEARS	No.	No.	No.	No.	No.
BRICKLAYERS	4	63	19	22	-	22
CARPENTERS	4	273	96	69	67	41
ELECTRICIANS	4	669	273	176	108	112
PAINTERS AND DECORATORS	3 1/2	71	38	13	9	11
PLASTERERS	4	88	32	29	6	21
PLUMBERS	4	482	117	120	121	124
STEAMFITTERS	4	107	32	29	5	41
GASFITTERS	4	40	34	3	2	1
MOTOR MECHANICS	4	1073	440	228	239	166
AUTO BODY	4	284	124	64	52	44
WELDERS	3	756	296	212	248	
SHEET METAL	4 3/4	264	78	80	58	48
RADIO TECHNICIANS	3	102	76	13	6	7
REFRIGERATOR MECHANICS	4	31	21	6	2	2
MACHINISTS	4	60	21	14	21	4
MILLWRIGHTS	4	23	16	4	2	1
LATHERS	3	7	3	2	1	1
COOKS	3	29	18	7	2	2
HEAVY DUTY MECHANICS	4	29	29	-	-	-
TOTAL - ALL TRADES ..	-	4451	1763	1091	949	648

TABLE 57. LOCAL UNIONS AND MEMBERSHIP REPORTED, ALBERTA, 1943-1958
(AS REPORTED BY LOCAL BRANCH UNIONS)

YEAR	NUMBER OF BRANCHES	NUMBER OF BRANCHES REPORTING MEMBERSHIP	MEMBERSHIP REPORTED
	No.	No.	No.
1943	299	284	28,975
1944	319	293	28,504
1945	321	286	28,578
1946	315	289	33,662
1947	342	321	38,202
1948	356	318	37,592
1949	360	331	41,550
1950 *	-	-	-
1951	365	325	42,750
1952	373	337	44,450
1953	369	333	48,111
1954	378	337	51,000
1955	411	362	52,500
1956	426	388	57,608
1957	425	373	66,297
1958	414	384	62,289

* FOR 1949 AND PREVIOUS YEARS MEMBERSHIP WAS REPORTED AS AT DECEMBER 31ST OF EACH YEAR.
AFTER 1949 MEMBERSHIP WAS REPORTED AS AT JANUARY 1ST OF EACH YEAR.

TRADING AREAS

- CALGARY —
- EDMONTON —
- LETHBRIDGE —
- MEDICINE HAT —
- RED DEER —
- WETASKIWIN —
- CAMROSE —
- DRUMHELLER —
- GRANDE PRAIRIE —
- LLOYDMINSTER —

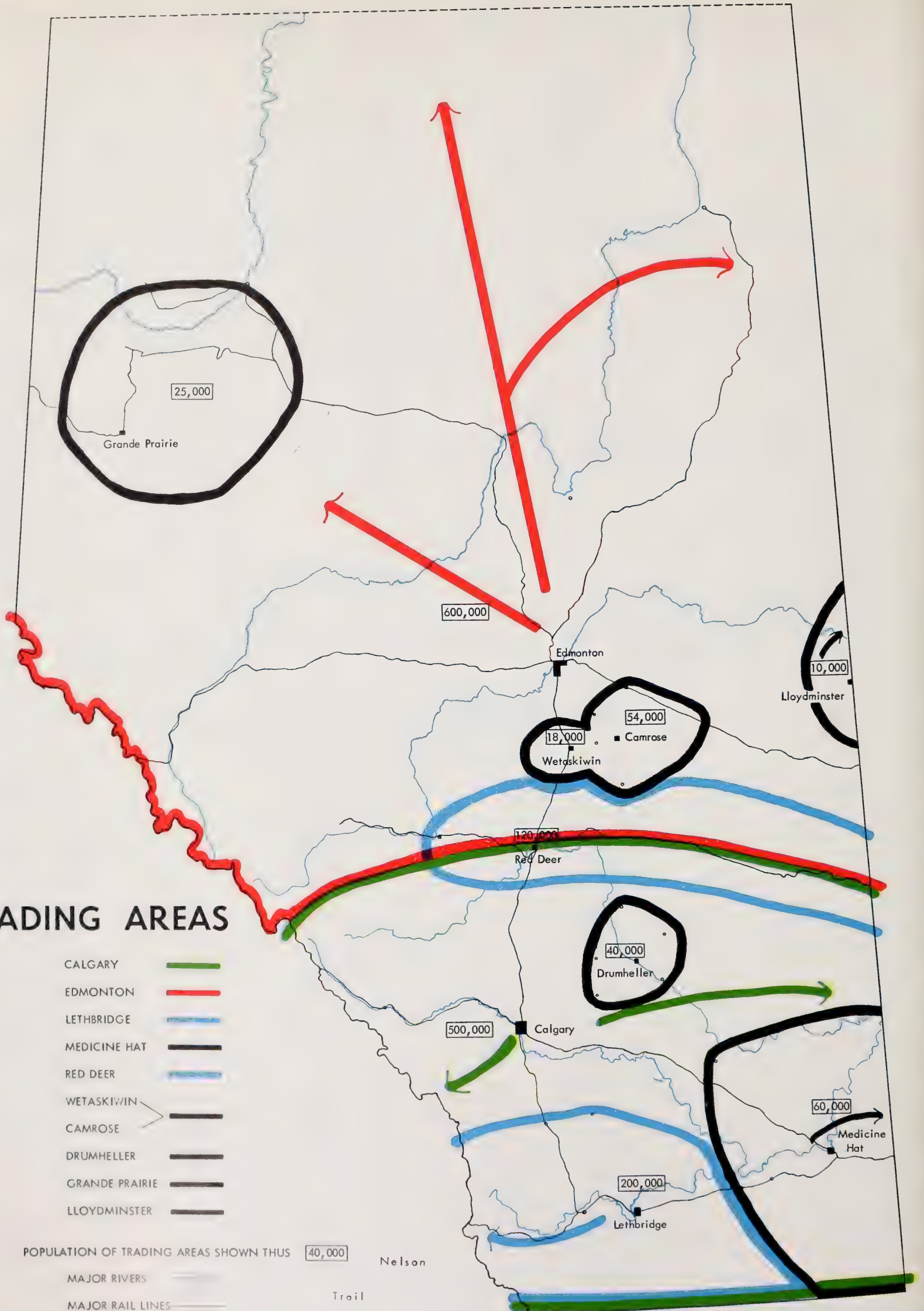
POPULATION OF TRADING AREAS SHOWN THUS 40,000

MAJOR RIVERS

MAJOR RAIL LINES

Nelson

Trail



CONSUMER MARKET DATA

Alberta's population increased by 400,000 persons between 1946 and 1958. The percentage gain in population has assured Alberta the position of one of the fastest growing provinces in Canada.

Population growth has been concentrated in urban centres. During the period 1946 to 1956 urban population rose from 44 per cent to 57 per cent of the total. Rural population increased by nine per cent between 1946 and 1951. The population of the ten Alberta cities contains almost half of the total population of the province.

The axis of the population concentration runs in a north-south line through Calgary and Edmonton, and then veers east from Edmonton. The median point of population lies near the city of Wetaskiwin approximately midway between Edmonton and Red Deer. The population density map shows the median points and the distribution of population as worked out following the 1956 census.

The increase in the population of the province of 400,000 persons in the past twelve years has been followed by a corresponding growth in retail, wholesale and service industries. To provide for the needs of a larger population new shopping centres and supermarkets have been built. Major department stores have been obliged to extend their facilities through expansions to existing stores and establishment of new outlets in outlying areas. Many large concerns have established warehouses in Alberta to serve the growing market. Increased population has encouraged the development of supporting industries and the corollary has been the growth of such services as dyeing, cleaning, hotel and motel accommodation, bank and financial offices, advertising and others.

Retail trade has increased at a faster rate than population. In 1947 when the population of the province numbered 825,000 persons the total value of retail sales was just over \$500 million. By 1958 the population had increased to 1,201,000 persons with retail sales reaching \$1,250 million. It is apparent that a certain proportion of the increase in dollar value of retail sales may be attributed to inflation. However, if the retail sales figures are deflated by use of the consumer price index we find there has been a 66 per cent increase in "constant dollar" volume of retail trade (1949 = 100) and a 36 per cent increase in population. In these terms it is evident that retail sales have increased at a more rapid rate than the population, indicating a higher standard of living brought about by higher incomes.

The growth of population in urban areas has had the effect of changing the pattern of retail trade. For example in 1947, ten per cent of all retail trade was done through country general stores. By 1957 this type of outlet received only five per cent of the business. Grocery and combination stores now account for 15 per cent of all retail sales as compared with 11 per cent in 1947. Department store sales have grown in direct proportion to the increase of retail sales in that they received ten per cent of the total business in 1947 and in 1957 they accounted for 11 per cent.

The growth of the cities and the trend towards suburban living plus the fact that Albertans enjoy the lowest persons per passenger car ratio in Canada, is changing family shopping habits. Ample parking facilities and the fact that most family needs may be obtained at one location, are influencing the shopping habits of the families in outlying districts. Since shopping centres are new to Alberta, it is still early to assess what proportion of total sales are funnelled through these channels. Indications are that popularity of this type of retail outlet will increase rapidly in relative importance in the next few years.

Wholesale sales have kept pace with retail sales. Wholesale facilities have improved to meet the demand for goods. Both Calgary and Edmonton have been focal points in construction and expansion of wholesale facilities. Calgary has many large distributors of consumer goods and Edmonton has shared in this development. In addition, Edmonton has become a leading supply centre for the oil industry, and the mining industry of the north. Especially encouraging have been those ventures which established first as wholesalers and, after the market became established, proceeded to manufacture

the commodities locally.

The increase in volume of business in Alberta is reflected by the rate of growth of banking operations. Since 1947 bank debits have increased fourfold and bank clearings almost fivefold. All banks and treasury branches have pursued a vigorous expansion programme. During the past decade 135 additional branches and sub-agencies of chartered banks have been established, as well as six new treasury branches.

Calgary is the banking centre of the province, with most of the bank head-offices and oil and gas departments located there. Statistics on bank clearings show that of the total of \$8,414 million cleared at Alberta clearing houses in 1957, Calgary accounted for 66 per cent of the total; Edmonton 27 per cent; and other centres the remaining seven per cent. The bank debit figures reflect the same picture with Calgary banks reporting 60 per cent of the total debits; Edmonton banks 35 per cent.

Not only has the Alberta market grown significantly during the post-war period, but the western Canada market has developed as well. There are now almost four and one half million people living west of the Great Lakes. Alberta with 1,201,000 persons is in the centre of the concentration of population. It is bordered on the west by British Columbia with 1.5 million people, and Manitoba and Saskatchewan on the east with 1.7 million people.

Since the geographic centre of population of western Canada is located in Alberta, this province has become a focal point for the location of manufacturing and distribution facilities to serve the western area.

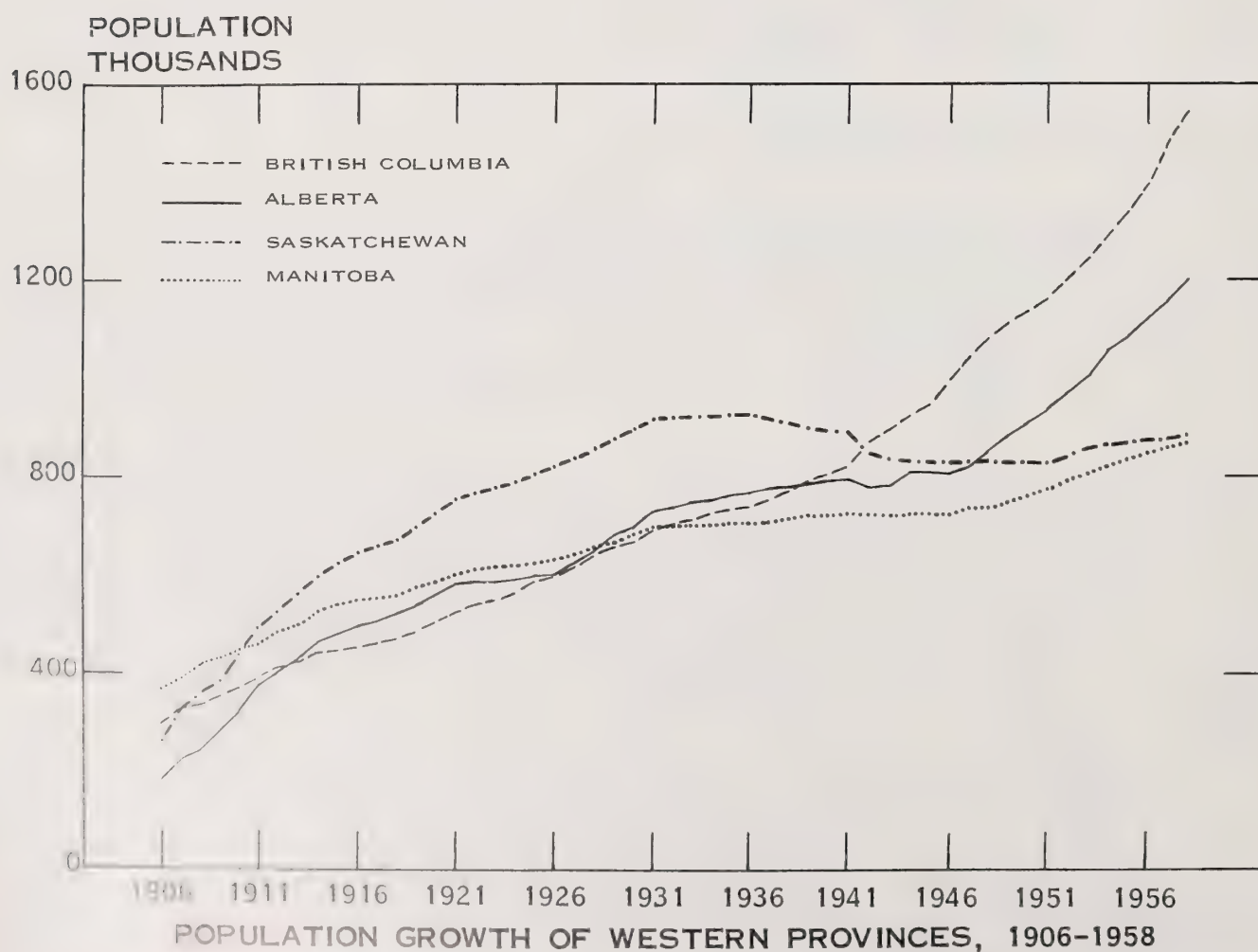


TABLE 58. RETAIL TRADE — ALBERTA, 1947-1957

SALES — DISTRIBUTION BY GROUPS	1947 \$ '000	1948 \$ '000	1949 \$ '000	1950 \$ '000	1951 \$ '000	1952 \$ '000	1953 \$ '000	1954 \$ '000	1955 \$ '000	1956 \$ '000	1957 \$ '000
GROCERY AND COMBINATION STORES	68,716	78,676	87,635	102,188	120,844	130,900	125,376	139,756	145,662	163,084	179,302
PER CENT OF TOTAL	13.6	12.9	12.6	13.2	14.2	13.9	12.7	14.5	14.1	14.1	14.8
OTHER FOOD AND BEVERAGE STORES	*	*	*	*	*	*	*	59,538	63,163	64,282	67,996
PER CENT OF TOTAL	%	%	%	%	%	%	%	6.2	6.1	5.5	5.6
GENERAL STORES	49,246	56,293	58,029	58,156	60,432	60,969	59,342	56,151	53,451	56,534	58,852
PER CENT OF TOTAL	9.8	9.2	8.3	7.5	7.1	6.5	6.0	5.8	5.2	4.9	4.9
DEPARTMENT STORES	57,931	69,413	76,632	80,310	86,414	96,319	102,670	103,046	113,942	127,758	137,617
PER CENT OF TOTAL	11.5	11.3	11.0	10.3	10.1	10.3	10.4	10.7	11.0	11.0	11.4
VARIETY STORES	6,327	7,406	8,432	8,843	9,914	11,432	12,277	12,564	13,842	15,034	15,619
PER CENT OF TOTAL	1.3	1.2	1.2	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3
MOTOR VEHICLE DEALERS	68,245	81,175	102,255	129,966	193,570	210,155	211,358	182,023	209,914	239,954	252,661
PER CENT OF TOTAL	13.5	13.3	14.7	16.8	22.7	22.4	21.4	18.9	20.3	20.7	21.0
GARAGES AND FILLING STATIONS	30,236	33,705	32,857	36,765	41,958	48,770	55,579	62,823	64,454	73,595	72,874
PER CENT OF TOTAL	6.0	5.5	4.7	4.8	4.9	5.2	5.6	6.5	6.2	6.4	6.0
MEN'S CLOTHING STORES	9,040	8,566	9,757	9,109	13,442	15,720	16,498	15,708	20,391	22,633	22,939
PER CENT OF TOTAL	1.8	1.4	1.4	1.2	1.6	1.7	1.7	1.6	2.0	2.0	1.9
FAMILY CLOTHING STORES	8,896	10,007	10,777	11,950	13,803	12,036	12,496	11,676	12,080	13,711	14,310
PER CENT OF TOTAL	1.8	1.6	1.5	1.5	1.6	1.3	1.3	1.2	1.1	1.2	1.2
WOMEN'S CLOTHING STORES	8,618	10,861	13,328	11,854	12,229	15,971	19,537	20,737	19,465	21,269	21,589
PER CENT OF TOTAL	1.7	1.8	1.9	1.5	1.4	1.7	2.0	2.2	1.9	1.8	1.8
SHOE STORES	2,558	2,922	3,838	4,124	4,508	5,290	5,300	5,144	6,047	7,426	7,633
PER CENT OF TOTAL .....	.5	.5	.6	.5	.5	.6	.5	.5	.6	.6	.6
HARDWARE STORES	20,142	24,199	26,592	29,104	25,219	27,247	28,296	26,570	27,151	37,147	38,955
PER CENT OF TOTAL	4.0	3.9	3.8	3.7	3.0	2.9	2.9	2.7	2.6	3.2	3.2
LUMBER AND BUILDING MATERIAL DEALERS	28,954	34,030	39,112	43,853	47,386	51,571	59,726	53,152	54,339	60,532	54,903
PER CENT OF TOTAL	5.7	5.6	5.6	5.7	5.5	5.5	6.0	5.5	5.3	5.2	4.6
FURNITURE, APPLIANCES, RADIO STORES	16,040	16,436	22,121	22,607	21,244	28,536	29,718	32,440	41,605	40,182	41,215
PER CENT OF TOTAL	3.2	2.7	3.2	2.9	2.5	3.0	3.0	3.4	4.0	3.5	3.4
RESTAURANTS	27,168	29,801	32,178	35,118	37,914	40,604	39,474	36,319	36,364	41,478	42,030
PER CENT OF TOTAL	5.4	4.9	4.6	4.5	4.4	4.3	4.0	3.8	3.5	3.6	3.5
FUEL OIL DEALERS	2,783	1,896	1,969	1,322	1,107	834	594	523	668	786	866
PER CENT OF TOTAL .....	.5	.3	.3	.2	.1	.1	.1	.1	.1	.1	.1
DRUG STORES	12,339	13,414	13,944	15,645	17,671	19,685	21,022	21,282	22,854	25,499	27,462
PER CENT OF TOTAL	2.4	2.2	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.3
JEWELLERY STORES	3,812	3,854	4,428	5,564	6,986	7,927	7,536	5,873	6,214	7,432	7,281
PER CENT OF TOTAL .....	.8	.6	.6	.7	.8	.8	.8	.6	.6	.6	.6
MISCELLANEOUS	83,255	128,840	153,135	170,214	139,128	155,123	180,692	118,304	123,390	140,624	142,159
PER CENT OF TOTAL	16.5	21.1	22.0	21.9	16.3	16.5	18.3	12.3	11.9	12.1	11.8
TOTAL ——— RETAIL TRADE	504,306	611,494	697,019	776,692	853,769	939,089	987,495	963,630	1,034,995	1,158,960	1,206,264

* INCLUDED IN MISCELLANEOUS.

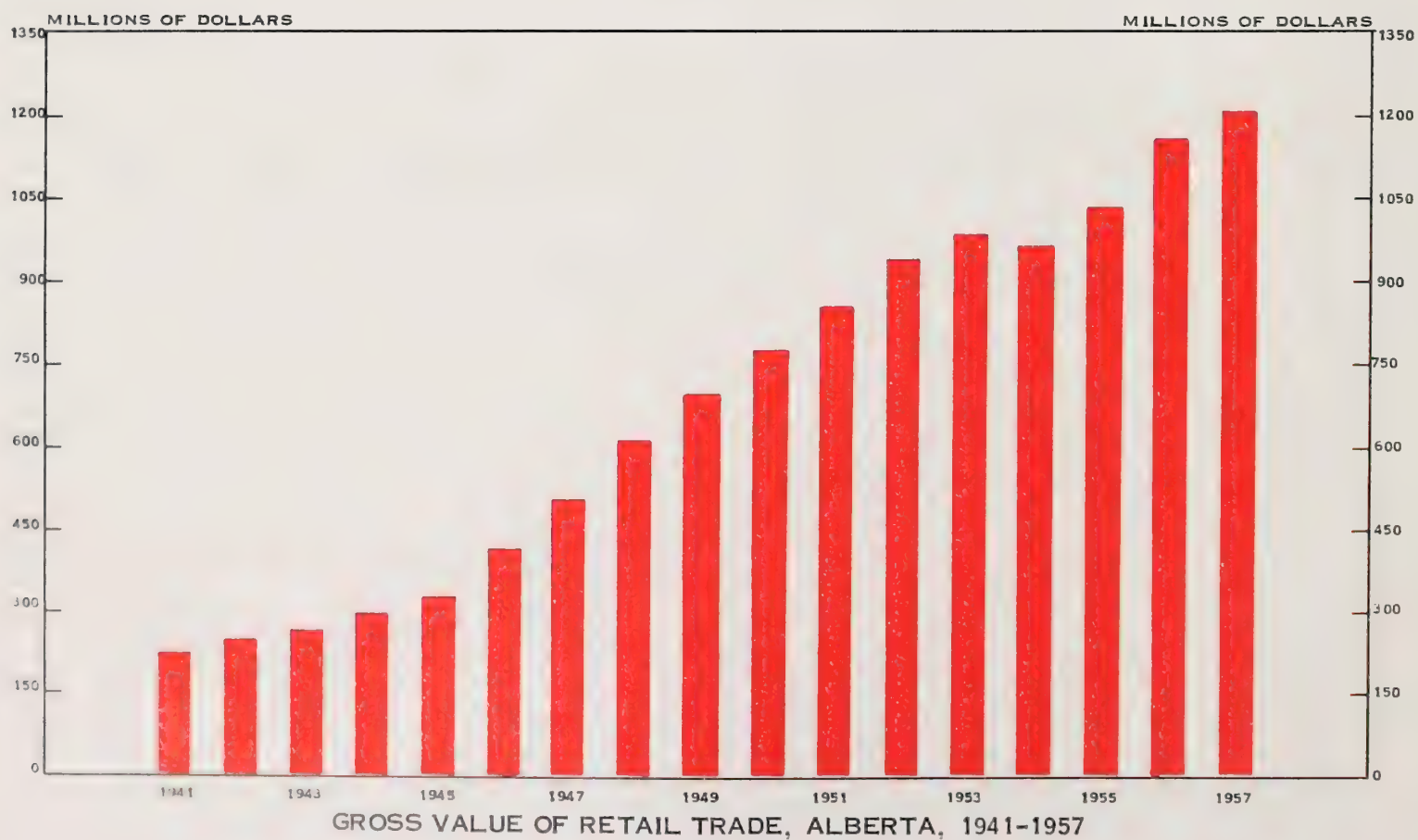
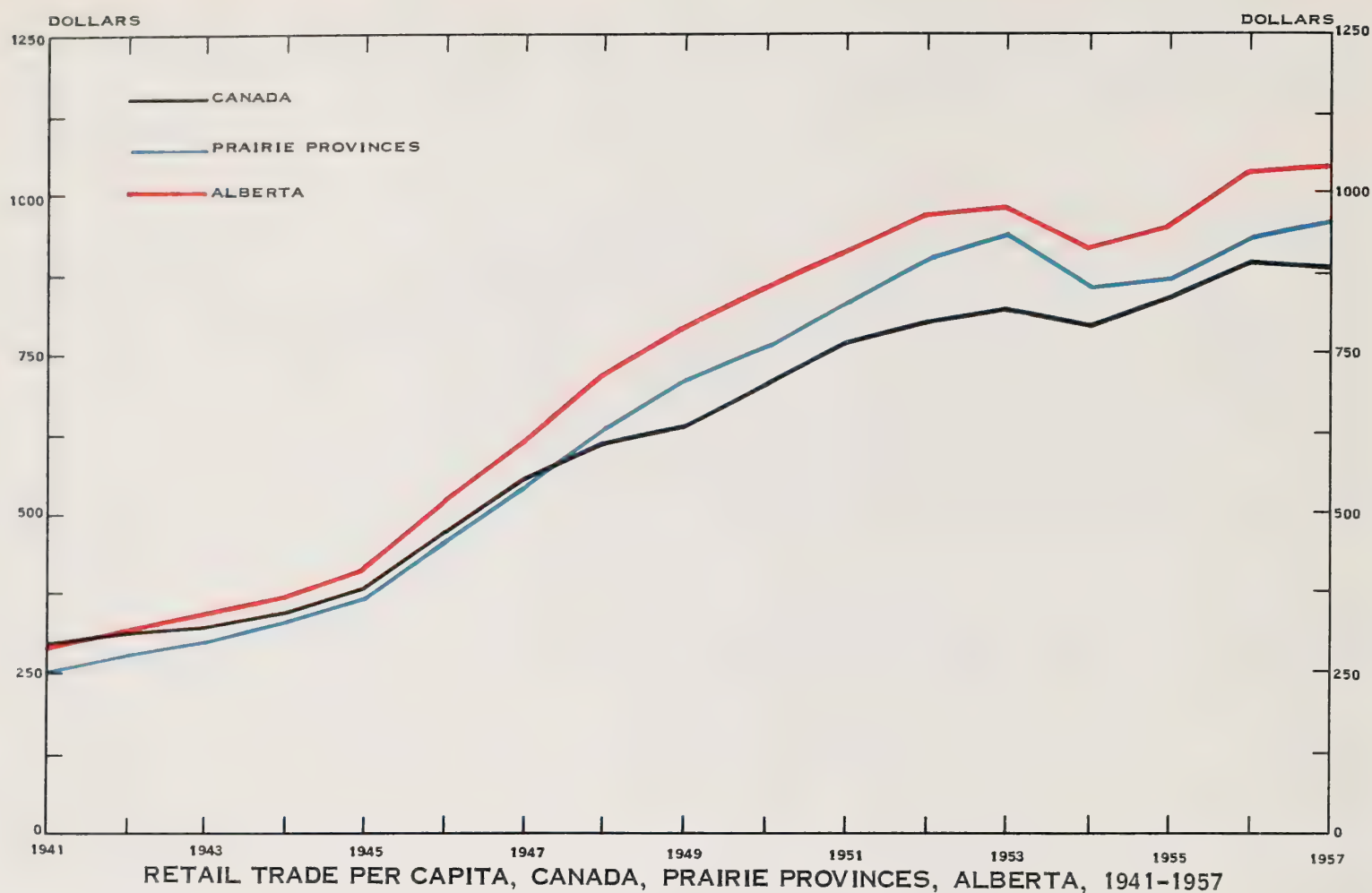


TABLE 59. INCOME TAXATION STATISTICS — ALBERTA, 1946-1956

TAXABLE RETURNS

	NO. OF RETURNS NO.	EARNED INCOME \$	INVESTMENT INCOME \$	TOTAL INCOME \$	TOTAL EXEMPTIONS AND DEDUC- TIONS CLAIMED \$	TAXABLE INCOME \$	TOTAL TAX \$
1946 *	130,540	250,065,000	12,257,000	262,322,000	3,584,000	258,738,000	33,408,000
1947 *	137,535	304,473,000	13,269,000	317,742,000	177,134,000	140,608,000	32,851,000
1948 *	166,900	408,433,000	15,604,000	424,037,000	221,560,000	202,477,000	40,357,000
1949 *	143,930	418,609,000	16,980,000	435,589,000	244,968,000	190,621,000	36,576,000
1950	150,550	434,579,000	16,210,000	450,789,000	256,661,000	194,128,000	36,853,000
1951	176,190	537,626,000	21,697,000	559,323,000	307,302,000	252,021,000	51,951,000
1952	209,350	669,737,000	22,900,000	692,637,000	362,914,000	329,723,000	73,113,000
1953	228,530	741,143,000	28,217,000	769,360,000	398,695,000	370,665,000	77,229,000
1954	224,740	723,137,000	32,220,000	755,357,000	390,200,000	365,157,000	72,566,000
1955	236,610	794,662,000	34,335,000	828,997,000	413,815,000	415,182,000	80,368,000
1956	259,017	911,427,000	37,078,000	948,505,000	452,889,000	495,616,000	81,474,000

NON-TAXABLE RETURNS

	NO. OF RETURNS NO.	EARNED INCOME \$	INVESTMENT INCOME \$	TOTAL INCOME \$
1946 *	62,230	35,969,000	1,550,000	37,519,000
1947 *	83,440	67,202,000	2,861,000	70,063,000
1948 *	72,660	62,913,000	3,238,000	66,151,000
1949 *	103,330	126,126,000	3,456,000	129,582,000
1950	109,130	125,295,000	5,314,000	130,609,000
1951	94,060	111,247,000	4,575,000	115,822,000
1952	89,830	99,077,000	4,370,000	103,447,000
1953	95,110	105,241,000	4,951,000	110,192,000
1954	110,800	113,439,000	7,285,000	120,724,000
1955	110,830	106,690,000	7,605,000	114,295,000
1956	101,527	**	**	111,881,000

ALL RETURNS

	NO. OF RETURNS NO.	EARNED INCOME \$	INVESTMENT INCOME \$	TOTAL INCOME \$
1946 *	192,770	286,034,000	13,807,000	299,841,000
1947 *	220,975	371,675,000	16,130,000	387,805,000
1948 *	239,560	471,346,000	18,842,000	490,188,000
1949 *	247,260	544,735,000	20,436,000	565,171,000
1950	259,680	559,874,000	21,524,000	581,398,000
1951	270,250	648,873,000	26,272,000	675,145,000
1952	299,180	768,814,000	27,270,000	796,084,000
1953	323,640	846,384,000	33,168,000	879,552,000
1954	335,540	836,576,000	39,505,000	876,081,000
1955	347,440	901,352,000	41,940,000	943,292,000
1956	360,544	**	**	1,060,386,000

* RETURNS FILED IN ALBERTA TAXATION OFFICES WERE ALLOCATED TO ALBERTA WITHOUT REGARD TO TAXPAYER'S ADDRESS.

** FIGURES NOT AVAILABLE FOR 1956.

TABLE 60. AVERAGE INCOME OF TAXABLE PERSONS, BY OCCUPATIONAL CLASSES
ALBERTA * — 1950-1956

OCCUPATION	1950 \$	1951 \$	1952 \$	1953 \$	1954 \$	1955 \$	1956 \$
FARMERS	4,251	3,882	4,135	3,876	3,296	3,523	3,775
FISHERMEN	-	-	-	-	-	-	3,864
FARMERS AND FISHERMEN	4,251	3,881	4,135	3,876	3,296	3,523	3,775
ACCOUNTANTS	-	3,817	7,090	6,625	6,752	6,876	8,685
MEDICAL DOCTORS AND SURGEONS	11,679	12,014	12,984	11,746	11,986	12,905	12,063
DENTISTS	7,236	6,115	7,670	8,360	9,327	9,142	11,905
LAWYERS AND NOTARIES	7,965	9,658	9,170	10,475	10,968	11,150	11,371
CONSULTING ENGINEERS AND ARCHITECTS	13,860	10,170	9,770	-	-	11,142	11,027
NURSES	1,350	1,670	1,720	-	2,283	2,225	1,840
OTHER PROFESSIONAL	3,300	4,745	3,867	-	6,470	5,267	6,340
AVERAGE FOR ABOVE CLASSES	8,967	8,487	8,765	8,901	9,498	9,005	9,972
AGRICULTURAL ENTERPRISES	1,732	1,675	1,831	2,003	2,027	1,913	1,870
BUSINESS ENTERPRISES	2,619	2,919	3,017	3,172	3,207	3,369	3,526
INSTITUTIONS	2,029	1,975	2,134	2,261	2,227	2,272	2,402
EDUCATIONAL INSTITUTIONS	2,614	2,721	2,894	3,142	3,186	3,405	3,453
FEDERAL GOVERNMENT	2,494	2,743	2,936	2,868	3,030	3,099	3,138
PROVINCIAL GOVERNMENT	2,432	2,492	2,619	2,618	2,872	2,887	3,099
MUNICIPAL AND SMALLER GOVERNMENTS	2,602	2,612	2,833	2,956	3,043	3,238	3,329
UNCLASSIFIED	2,236	2,742	-	2,255	2,530	2,627	2,445
AVERAGE FOR ABOVE CLASSES	2,586	-	-	3,088	3,140	3,275	3,431
SALESMEN	4,414	4,549	4,463	5,062	4,511	4,807	5,155
MANUFACTURING	**	**	**	5,884	5,158	5,972	6,154
CONSTRUCTION	**	**	**	5,348	4,841	5,373	5,476
PUBLIC UTILITIES	**	**	**	3,600	3,320	3,529	4,154
WHOLESALE TRADE	**	**	**	6,585	6,947	7,490	9,326
RETAIL TRADE	**	**	**	5,282	5,174	5,133	5,589
SERVICE	**	**	**	4,410	3,724	3,925	4,046
FINANCE	**	**	**	7,241	6,659	9,074	6,933
UNCLASSIFIED	**	**	**	5,053	5,523	5,623	7,776
AVERAGE FOR ABOVE CLASSES	**	**	**	4,966	4,665	4,876	5,133
INVESTMENT INCOME PREDOMINATES	5,050	6,331	4,736	5,131	5,867	6,072	5,119
PENSION INCOME PREDOMINATES	2,329	2,775	2,204	2,569	2,324	2,350	2,368
AVERAGE FOR ABOVE CLASSES	4,741	6,141	4,509	4,894	5,552	5,654	4,740
ESTATES	1,571	1,385	5,041	4,392	3,838	5,552	3,416
UNCLASSIFIED	8,400	1,950	-	-	3,720	4,439	5,280
AVERAGE FOR ALL CLASSES	2,994	3,175	3,309	3,367	3,361	3,504	3,665

* ALSO INCLUDES NORTH WEST TERRITORIES.

** BREAKDOWN FOR THIS SECTION NOT AVAILABLE PREVIOUS TO 1953.

- INSUFFICIENT RETURNS - INCLUDED IN TOTAL BUT NOT SHOWN SEPARATELY.

TABLE 61. NUMBER OF INCOME TAXPAYERS, AVERAGE INCOME AND TOTAL INCOME
FOR ALBERTA CITIES HAVING MORE THAN 5000 TAXPAYERS

1950-1956					
YEAR	PLACE OF RESIDENCE	POSITION * IN ORDER OF AVERAGE INCOME	NUMBER OF TAXPAYERS	AVERAGE INCOME	TOTAL INCOME REPORTED
			No.	\$	\$'000, 000
1950	CALGARY	10	40,290	3,046	122.7
	EDMONTON	29	46,800	2,874	134.5
	LETHBRIDGE	1	6,240	3,312	20.7
1951	CALGARY	8	45,780	3,283	150.3
	EDMONTON	24	55,080	3,102	170.8
	LETHBRIDGE	9	6,490	3,271	21.2
1952	CALGARY	11	52,590	3,421	179.9
	EDMONTON	28	66,270	3,243	215.0
	LETHBRIDGE	13	8,250	3,390	28.0
1953	CALGARY	7	58,990	3,563	210.2
	EDMONTON	24	74,290	3,369	250.3
	LETHBRIDGE	28	8,350	3,322	27.7
	MEDICINE HAT	45	5,110	3,186	16.3
1954	CALGARY	7	61,090	3,633	222.0
	EDMONTON	28	77,450	3,418	264.7
	LETHBRIDGE	15	8,850	3,506	31.0
1955	CALGARY	6	63,810	3,819	243.7
	EDMONTON	28	84,000	3,539	297.3
	LETHBRIDGE	48	9,090	3,355	30.5
	MEDICINE HAT	37	5,090	3,433	17.5
1956	CALGARY	9	69,514	3,913	272.0
	EDMONTON	26	91,081	3,751	341.7
	LETHBRIDGE	37	9,368	3,584	33.6
	MEDICINE HAT	55	6,011	3,464	20.8

* INDICATES RATING OF SPECIFIED ALBERTA CITIES COMPARED WITH OTHER CANADIAN CITIES, E.G. IN 1950
LETHBRIDGE TAXPAYERS HAD THE HIGHEST AVERAGE INCOME IN CANADA.

Table 62. DISTRIBUTION OF TAXABLE RETURNS, SOURCES OF INCOME, ALLOWABLE DEDUCTIONS AND INCOME TAX BY MAJOR CITIES
ALBERTA, 1946-1956

	NO. OF RETURNS NO.	WAGES AND SALARIES \$	OTHER EARNED INCOME \$	INVESTMENT INCOME \$	TOTAL INCOME \$	TOTAL EXEMPTIONS AND DEDUCTIONS \$	TAXABLE INCOME \$	TOTAL TAX \$
1946								
CALGARY	33,969	55,604,000	10,124,000	3,925,000	69,653,000	933,000	68,720,000	9,518,000
EDMONTON	37,523	61,630,000	8,261,000	2,813,000	72,704,000	952,000	71,752,000	9,265,000
LETHBRIDGE	5,332	8,517,000	2,635,000	576,000	11,728,000	218,000	11,510,000	1,645,000
MEDICINE HAT	3,442	5,406,000	1,264,000	484,000	7,154,000	90,000	7,064,000	960,000
OTHER AREAS	50,017	60,555,000	34,977,000	3,715,000	99,247,000	1,356,000	97,891,000	11,495,000
CALGARY	34,645	63,724,000	13,744,000	4,604,000	82,072,000	44,212,000	37,860,000	9,342,000
EDMONTON	37,850	69,721,000	10,712,000	2,994,000	83,427,000	47,276,000	36,151,000	8,264,000
LETHBRIDGE	5,687	9,911,000	2,887,000	686,000	13,484,000	7,270,000	6,214,000	1,473,000
MEDICINE HAT	3,604	6,383,000	1,404,000	371,000	8,158,000	4,782,000	3,376,000	807,000
OTHER AREAS	55,017	70,022,000	54,509,000	4,135,000	128,666,000	72,802,000	55,864,000	12,631,000
CALGARY	40,570	84,615,000	15,353,000	5,536,000	105,504,000	52,911,000	52,593,000	10,744,000
EDMONTON	45,410	92,084,000	14,010,000	3,738,000	109,832,000	58,467,000	51,365,000	10,236,000
LETHBRIDGE	5,790	11,939,000	3,680,000	495,000	16,114,000	7,727,000	8,387,000	1,908,000
MEDICINE HAT	3,870	7,631,000	1,480,000	216,000	9,327,000	5,140,000	4,187,000	761,000
OTHER AREAS	69,870	94,040,000	80,465,000	4,541,000	179,046,000	95,610,000	83,436,000	16,015,000
CALGARY	36,980	—	—	5,700,000	111,116,000	62,218,000	48,898,000	9,871,000
EDMONTON	42,210	—	—	3,763,000	119,553,000	69,685,000	49,868,000	9,366,000
LETHBRIDGE	5,480	—	—	1,381,000	19,055,000	9,411,000	9,644,000	2,374,000
MEDICINE HAT	3,060	—	—	401,000	9,169,000	5,400,000	3,769,000	730,000
OTHER AREAS	56,870	—	—	4,743,000	177,167,000	99,710,000	77,457,000	13,884,000
CALGARY	40,290	95,449,000	20,958,000	6,300,000	122,707,000	67,707,000	55,000,000	11,137,000
EDMONTON	46,800	111,824,000	18,077,000	4,603,000	134,504,000	77,922,000	56,582,000	10,547,000
LETHBRIDGE	6,240	13,769,000	6,207,000	692,000	20,668,000	11,359,000	9,309,000	1,960,000
MEDICINE HAT	3,180	7,160,000	1,480,000	227,000	8,867,000	5,606,000	3,261,000	593,000
OTHER AREAS	54,040	94,038,000	65,617,000	4,388,000	164,043,000	94,067,000	69,976,000	12,616,000
CALGARY	45,780	121,594,000	20,883,000	7,838,000	150,315,000	78,622,000	71,693,000	15,746,000
EDMONTON	55,080	146,300,000	18,648,000	5,888,000	170,836,000	93,281,000	77,555,000	16,010,000
LETHBRIDGE	6,490	15,126,000	4,893,000	1,207,000	21,226,000	11,846,000	9,380,000	1,940,000
MEDICINE HAT	3,680	8,885,000	1,924,000	446,000	11,255,000	6,806,000	4,449,000	934,000
OTHER AREAS	65,160	118,705,000	80,668,000	6,318,000	205,691,000	116,747,000	88,944,000	17,321,000
CALGARY	52,590	145,032,000	27,122,000	7,779,000	179,933,000	89,694,000	90,239,000	20,888,000
EDMONTON	66,270	182,154,000	26,560,000	6,242,000	214,956,000	111,318,000	103,638,000	23,294,000
LETHBRIDGE	8,250	19,902,000	6,335,000	1,734,000	27,971,000	14,842,000	13,129,000	3,075,000
MEDICINE HAT	4,600	10,870,000	3,365,000	346,000	14,581,000	8,495,000	6,086,000	1,284,000
OTHER AREAS	77,640	148,838,000	99,559,000	6,799,000	255,196,000	138,565,000	116,631,000	24,572,000
CALGARY	58,990	170,497,000	28,140,000	11,550,000	210,187,000	101,456,000	108,731,000	24,041,000
EDMONTON	74,290	215,217,000	27,047,000	7,998,000	250,262,000	126,396,000	123,866,000	25,591,000
LETHBRIDGE	8,350	20,473,000	5,954,000	1,314,000	27,741,000	14,865,000	12,876,000	2,731,000
MEDICINE HAT	5,110	11,845,000	3,874,000	559,000	16,278,000	9,168,000	7,110,000	1,494,000
OTHER AREAS	81,790	167,030,000	91,066,000	6,796,000	264,892,000	146,810,000	118,082,000	23,372,000
CALGARY	61,090	184,720,000	24,556,000	12,701,000	221,977,000	104,490,000	117,487,000	24,416,000
EDMONTON	77,450	226,831,000	27,364,000	10,537,000	264,732,000	132,523,000	132,209,000	26,564,000
LETHBRIDGE	8,850	23,420,000	5,394,000	2,211,000	31,025,000	16,274,000	14,751,000	3,018,000
MEDICINE HAT	4,730	11,932,000	2,980,000	489,000	15,401,000	8,800,000	6,601,000	1,305,000
OTHER AREAS	72,620	164,373,000	51,567,000	6,282,000	222,222,000	128,113,000	94,109,000	17,263,000
CALGARY	63,810	199,568,000	29,610,000	14,492,000	243,670,000	109,957,000	133,713,000	27,510,000
EDMONTON	84,000	258,340,000	28,403,000	10,520,000	297,263,000	145,201,000	152,062,000	29,304,000
LETHBRIDGE	9,090	24,470,000	5,079,000	950,000	30,499,000	16,750,000	13,749,000	2,585,000
MEDICINE HAT	5,090	12,940,000	3,917,000	614,000	17,471,000	9,494,000	7,977,000	1,644,000
OTHER AREAS	74,620	178,102,000	54,233,000	7,759,000	240,094,000	132,413,000	107,681,000	19,325,000
CALGARY	69,514	222,893,000	34,240,000	14,820,000	271,953,000	118,682,000	153,271,000	28,830,000
EDMONTON	91,081	293,960,000	36,702,000	10,996,000	341,658,000	157,063,000	184,595,000	33,617,000
LETHBRIDGE	9,368	25,200,000	6,747,000	1,632,000	33,579,000	17,181,000	16,398,000	2,933,000
MEDICINE HAT	6,011	15,601,000	4,596,000	626,000	20,823,000	10,905,000	9,918,000	1,729,000
OTHER AREAS	83,043	200,007,000	71,481,000	9,004,000	280,492,000	149,058,000	131,434,000	22,160,000
1947								
CALGARY	34,645	63,724,000	13,744,000	4,604,000	82,072,000	44,212,000	37,860,000	9,342,000
EDMONTON	37,850	69,721,000	10,712,000	2,994,000	83,427,000	47,276,000	36,151,000	8,264,000
LETHBRIDGE	5,687	9,911,000	2,887,000	686,000	13,484,000	7,270,000	6,214,000	1,473,000
MEDICINE HAT	3,604	6,383,000	1,404,000	371,000	8,158,000	4,782,000	3,376,000	807,000
OTHER AREAS	55,017	70,022,000	54,509,000	4,135,000	128,666,000	72,802,000	55,864,000	12,631,000
CALGARY	40,570	84,615,000	15,353,000	5,536,000	105,504,000	52,911,000	52,593,000	10,744,000
EDMONTON	45,410	92,084,000	14,010,000	3,738,000	109,832,000	58,467,000	51,365,000	10,236,000
LETHBRIDGE	5,790	11,939,000	3,680,000	495,000	16,114,000	7,727,000	8,387,000	1,908,000
MEDICINE HAT	3,870	7,631,000	1,480,000	216,000	9,327,000	5,140,000	4,187,000	761,000
OTHER AREAS	69,870	94,040,000	80,465,000	4,541,000	179,046,000	95,610,000	83,436,000	16,015,000
CALGARY	36,980	—	—	5,700,000	111,116,000	62,218,000	48,898,000	9,871,000
EDMONTON	42,210	—	—	3,763,000	119,553,000	69,685,000	49,868,000	9,366,000
LETHBRIDGE	5,480	—	—	1,381,000	19,055,000	9,411,000	9,644,000	2,374,000
MEDICINE HAT	3,060	—	—	401,000	9,169,000	5,400,000	3,769,000	730,000
OTHER AREAS	56,870	—	—	4,743,000	177,167,000	99,710,000	77,457,000	13,884,000
CALGARY	40,290	95,449,000	20,958,000	6,300,000	122,707,000	67,707,000	55,000,000	11,137,000
EDMONTON	46,800	111,824,000	18,077,000	4,603,000	134,504,000	77,922,000	56,582,000	10,547,000
LETHBRIDGE	6,240	13,769,000	6,207,000	692,000	20,668,000	11,359,000	9,309,000	1,960,000
MEDICINE HAT	3,180	7,160,000	1,480,000	227,000	8,867,000	5,606,000	3,261,000	593,000
OTHER AREAS	54,040	94,038,000	65,617,000	4,388,000	164,043,000	94,067,000	69,976,000	12,616,000
CALGARY	45,780	121,594,000	20,883,000	7,838,000	150,315,000	78,622,000	71,693,000	15,746,000
EDMONTON	55,080	146,300,000	18,648,000	5,888,000	170,836,000	93,281,000	77,555,000	16,010,000
LETHBRIDGE	6,490	15,126,000	4,893,000	1,207,000	21,226,000	11,846,000	9,380,000	1,940,000
MEDICINE HAT	3,680	8,885,000	1,924,000	446,000	11,255,000	6,806,000	4,449,000	934,000
OTHER AREAS	65,160	118,705,000	80,668,000	6,318,000	205,691,000	116,747,000	88,944,000	17,321,000
CALGARY	52,590	145,032,000	27,122,000	7,779,000	179,933,000	89,694,000	90,239,000	20,888,000
EDMONTON	66,270	182,154,000	26,560,000	6,242,000	214,956,000	111,318,000	103,638,000	23,294,000
LETHBRIDGE	8,250	19,902,000	6,335,000	1,734,000	27,971,000	14,842,000	13,129,000	3,075,000
MEDICINE HAT	4,600	10,870,000	3,365,000	346,000	14,581,000	8,495,000	6,086,000	1,284,000
OTHER AREAS	77,640	148,838,000	99,559,000	6,799,000	255,196,000	138,565,000	116,631,000	24,572,000
CALGARY	58,990	170,497,000	28,140,000	11,550,000	210,187,000	101,456,000	108,731,000	24,041,000
EDMONTON	74,290	215,217,000	27,047,000	7,998,000	250,262,000	126,396,000	123,866,000	25,591,000
LETHBRIDGE	8,350	20,473,000	5,954,000	1,314,000	27,741,000	14,865,000	12,876,000	2,731,000
MEDICINE HAT	5,110	11,845,000	3,874,000	559,000	16,278,000	9,168,000	7,110,000	1,494,000
OTHER AREAS	81,790	167,030,000	91,066,000	6,796,000	264,892,000	146,810,000	118,082,000	23,372,000
CALGARY	61,090	184,720,000	24,556,000	12,701,000	221,977,000	104,490,000	117,487,000	24,416,000
EDMONTON	77,450	226,831,000	27,364,000	10,537,000	264,732,000	132,523,000	132,209,000	26,564,000
LETHBRIDGE	8,850	23,420,000	5,394,000	2,211,000	31,025,000	16,274,000	14,751,000	3,018,000
MEDICINE HAT	4,730	11,932,000	2,980,000	489,000	15,401,000	8,800,000	6,601,000	1,305,000
OTHER AREAS	72,620	164,373,000	51,567,000	6,282,000	222,222,000	128,113,000	94,109,000	17,263,000
CALGARY	63,810	199,568,000	29,610,000	14,492,000	243,670,000	109,957,000	133,713,000	27,510,000
EDMONTON	84,000	258,340,000	28,403,000	10,520,000	297,263,000	145,201,000	152,062,0	

TABLE 63. PUBLIC AND PRIVATE INVESTMENT IN ALBERTA — 1948-1959 ¹
(MILLIONS - OF - DOLLARS)

			CAPITAL EXPENDITURES			REPAIR AND MAINTENANCE EXPENDITURES			CAPITAL, REPAIR AND MAINTENANCE EXPENDITURES		
			CONSTRUC-	MACHINERY	SUB-	CONSTRUC-	MACHINERY	SUB-	CONSTRUC-	MACHINERY	TOTAL
			TION	EQUIPMENT	TOTAL	TION	EQUIPMENT	TOTAL	TION	EQUIPMENT	
			\$	\$	\$	\$	\$	\$	\$	\$	\$
1.	PRIMARY INDUSTRIES AND CONSTRUCTION	1948	*	*	**	*	*	**	*	*	**
		1949	44.0	83.3	127.3	7.5	30.0	37.5	51.5	113.3	164.8
		1950	58.0	97.3	155.3	9.0	28.2	37.2	67.0	125.5	192.5
		1951	82.4	110.3	192.7	12.2	29.2	41.4	94.6	139.5	234.1
		1952	94.3	121.8	216.1	12.3	44.4	56.7	106.6	166.2	272.8
		1953	104.9	117.5	222.4	13.7	32.9	46.6	118.6	150.4	269.0
		1954	92.8	89.5	182.3	13.5	42.2	55.7	106.3	131.7	238.0
		1955	143.5	102.3	245.8	13.9	48.5	62.4	157.4	150.8	308.2
		1956	170.8	132.9	303.7	16.7	59.8	76.5	187.5	192.7	380.2
		1957	140.1	119.1	259.2	17.0	59.8	76.8	157.1	178.9	336.0
		1958	156.1	111.3	267.4	16.1	60.6	76.7	172.2	171.9	344.1
		1959	170.5	111.1	281.6	16.4	61.0	77.4	186.9	172.1	359.0
2.	MANUFACTURING FOODS AND BEVERAGES	1948	*	*	*	*	*	*	*	*	*
		1949	1.5	2.8	4.3	0.7	2.2	2.9	2.2	5.0	7.2
		1950	1.5	3.3	4.8	0.7	2.0	2.7	2.2	5.3	7.5
		1951	2.7	3.1	5.8	0.6	2.0	2.6	3.3	5.1	8.4
		1952	1.3	2.2	3.5	0.7	2.3	3.0	2.0	4.5	6.5
		1953	1.7	3.8	5.5	0.8	2.8	3.6	2.5	6.6	9.1
		1954	2.1	3.9	6.0	0.8	2.8	3.6	2.9	6.7	9.6
		1955	1.4	2.8	4.2	1.0	2.8	3.8	2.4	5.6	8.0
		1956	2.5	3.9	6.4	1.0	2.9	3.9	3.5	6.8	10.3
		1957	1.0	3.2	4.2	1.1	3.2	4.3	2.1	6.4	8.5
		1958	1.9	3.3	5.2	1.3	2.4	3.7	3.2	5.7	8.9
		1959	1.1	2.8	3.9	1.3	2.3	3.6	2.4	5.1	7.5
3.	IRON AND STEEL PRODUCTS	1952	***	***	***	***	***	***	***	***	***
		1953	1.1	1.6	2.7	0.1	0.2	0.3	1.2	1.8	3.0
		1954	0.7	0.7	1.4	0.1	0.4	0.5	0.8	1.1	1.9
		1955	1.2	1.6	2.8	0.1	0.4	0.5	1.3	2.0	3.3
		1956	3.2	6.9	10.1	0.2	0.6	0.8	3.4	7.5	10.9
		1957	2.3	3.4	5.7	0.2	0.9	1.1	2.5	4.3	6.8
		1958	0.3	1.5	1.8	0.2	0.7	0.9	0.5	2.2	2.7
		1959	0.8	2.7	3.5	0.2	0.8	1.0	1.0	3.5	4.5
4.	TRANSPORTATION EQUIPMENT	1948	*	*	*	*	*	*	*	*	*
		1949	0.1	0.2	0.3	0.2	0.2	0.4	0.3	0.4	0.7
		1950	0.1	0.1	0.2	0.3	0.2	0.5	0.4	0.3	0.7
		1951	0.3	0.2	0.5	0.1	0.1	0.2	0.4	0.3	0.7
		1952	0.2	0.2	0.4	0.4	0.3	0.7	0.6	0.5	1.1
		1953	0.3	0.4	0.7	0.4	0.3	0.7	0.7	0.7	1.4
		1954	0.3	0.2	0.5	0.4	0.3	0.7	0.7	0.5	1.2
		1955	0.1	0.1	0.2	0.4	0.3	0.7	0.5	0.4	0.9
		1956	0.3	0.3	0.6	0.4	0.4	0.8	0.7	0.7	1.4
		1957	0.4	0.3	0.7	0.5	0.4	0.9	0.9	0.7	1.6
		1958	0.5	0.1	0.6	0.4	0.4	0.8	0.9	0.5	1.4
		1959	0.4	0.3	0.7	0.4	0.4	0.8	0.8	0.7	1.5
5.	NON-METALLIC MINERAL PRODUCTS	1952	***	***	***	***	***	***	***	***	***
		1953	0.9	1.9	2.8	0.2	1.7	1.9	1.1	3.6	4.7
		1954	0.7	1.4	2.1	0.4	2.0	2.4	1.1	3.4	4.5
		1955	6.5	4.1	10.6	0.3	2.0	2.3	6.8	6.1	12.9
		1956	5.0	8.5	13.5	0.2	2.4	2.6	5.2	10.9	16.1
		1957	0.5	1.2	1.7	0.4	3.2	3.6	0.9	4.4	5.3
		1958	0.6	1.4	2.0	0.2	2.6	2.8	0.8	4.0	4.8
		1959	0.3	4.2	4.5	0.2	2.6	2.8	0.5	6.8	7.3
6.	PRODUCTS OF PETROLEUM AND COAL	1948	*	*	*	*	*	*	*	*	*
		1949	1.6	1.5	3.1	0.1	1.2	1.3	1.7	2.7	4.4
		1950	0.3	5.1	5.4	-	1.3	1.3	0.3	6.4	6.7
		1951	1.4	11.4	12.8	1.0	0.6	1.6	2.4	12.0	14.4
		1952	4.1	3.3	7.4	2.0	1.2	3.2	6.1	4.5	10.6
		1953	2.0	0.9	2.9	1.9	1.2	3.1	3.9	2.1	6.0
		1954	12.0	6.8	18.8	2.1	1.0	3.1	14.1	7.8	21.9
		1955	20.0	0.7	20.7	3.1	0.6	3.7	23.1	1.3	24.4
		1956	17.0	2.6	19.6	3.4	0.6	4.0	20.4	3.2	23.6
		1957	14.7	0.5	15.2	4.3	0.4	4.7	19.0	0.9	19.9
		1958	36.9	0.8	37.7	3.9	0.5	4.4	40.8	1.3	42.1
		1959	29.7	0.9	30.6	4.1	0.5	4.6	33.8	1.4	35.2
7.	OTHER MANUFACTURING	1948	*	*	*	*	*	*	*	*	*
		1949	1.2	4.0	5.2	0.6	2.5	3.1	1.8	6.5	8.3
		1950	1.3	4.9	6.2	0.7	2.6	3.3	2.0	7.5	9.5
		1951	8.3	9.2	17.5	1.0	3.1	4.1	9.3	12.3	21.6
		1952	37.8	26.1	63.9	1.0	3.3	4.3	38.8	29.4	68.2
		1953	21.2	55.7	76.9	0.5	2.5	3.0	21.7	58.2	79.9
		1954	6.5	14.3	20.8	0.4	3.7	4.1	6.9	18.0	24.9
		1955	10.4	12.5	22.9	0.6	5.0	5.6	11.0	17.5	28.5
		1956	27.5	36.4	63.9	0.7	4.0	4.7	28.2	40.4	68.6
		1957	8.9	25.2	34.1	1.1	5.4	6.5	10.0	30.6	40.6
		1958	7.9	14.5	22.4	0.8	6.3	7.1	8.7	20.8	29.5
		1959	2.8	21.2	24.0	0.9	5.7	6.6	3.7	26.9	30.6

1
PUBLIC AND PRIVATE INVESTMENT IN ALBERTA — 1948-1959 (CONTINUED)
(MILLIONS - OF - DOLLARS)

			CAPITAL EXPENDITURES			REPAIR AND MAINTENANCE EXPENDITURES			CAPITAL, REPAIR AND MAINTENANCE EXPENDITURES		
			CONSTRUC-	MACHINERY	SUB-	CONSTRUC-	MACHINERY	SUB-	CONSTRUC-	MACHINERY	TOTAL
			TION	EQUIPMENT	TOTAL	TION	EQUIPMENT	TOTAL	TION	EQUIPMENT	TOTAL
			\$	\$	\$	\$	\$	\$	\$	\$	\$
8.	SUB-TOTAL (ITEMS 2-7)	1948	*	*	16.5	*	*	6.9	*	*	23.4
		1949	4.4	8.5	12.9	1.6	6.1	7.7	6.0	14.6	20.6
		1950	3.2	13.4	16.6	1.7	6.1	7.8	4.9	19.5	24.4
		1951	12.7	23.9	36.6	2.7	5.8	8.5	15.4	29.7	45.1
		1952	43.4	31.8	75.2	4.1	7.1	11.2	47.5	38.9	86.4
		1953	27.2	64.3	91.5	3.9	8.7	12.6	31.1	73.0	104.1
		1954	22.3	27.3	49.6	4.2	10.2	14.4	26.5	37.5	64.0
		1955	39.6	21.8	61.4	5.5	11.1	16.6	45.1	32.9	78.0
		1956	55.5	58.6	114.1	5.9	10.9	16.8	61.4	69.5	130.9
		1957	27.8	33.8	61.6	7.6	13.5	21.1	35.4	47.3	82.7
		1958	48.1	21.6	69.7	6.8	12.9	19.7	54.9	34.5	89.4
		1959	35.1	32.1	67.2	7.1	12.3	19.4	42.2	44.4	86.6
9.	UTILITIES	1948	*	*	29.8	*	*	32.0	*	*	61.8
		1949	24.0	17.7	41.7	19.0	18.5	37.5	43.0	36.2	79.2
		1950	33.0	17.0	50.0	18.7	18.2	36.9	51.7	35.2	86.9
		1951	27.5	23.8	51.3	22.5	23.3	45.8	50.0	47.1	97.1
		1952	46.7	28.3	75.0	25.6	24.5	50.1	72.3	52.8	125.1
		1953	53.3	29.5	82.8	25.6	21.6	47.2	78.9	51.1	130.0
		1954	56.6	38.0	94.6	26.2	23.5	49.7	82.8	61.5	144.3
		1955	62.8	32.0	94.8	24.3	24.5	48.8	87.1	56.5	143.6
		1956	80.7	54.4	135.1	23.2	28.3	51.5	103.9	82.7	186.6
		1957	95.7	59.6	155.3	25.8	29.2	55.0	121.5	88.8	210.3
		1958	98.3	55.4	153.7	24.8	28.9	53.7	123.1	84.3	207.4
		1959	74.6	41.4	116.0	28.5	29.9	58.4	103.1	71.3	174.4
10.	TRADE, FINANCE AND COMMERCIAL SERVICES	1948	*	*	**	*	*	**	*	*	**
		1949	11.5	7.7	19.2	3.6	3.1	6.7	15.1	10.8	25.9
		1950	19.0	13.8	32.8	4.3	4.3	8.6	23.3	18.1	41.4
		1951	26.3	17.7	44.0	5.1	5.6	10.7	31.4	23.3	54.7
		1952	21.1	22.8	43.9	4.2	7.0	11.2	25.3	29.8	55.1
		1953	31.0	28.5	59.5	5.5	7.1	12.6	36.5	35.6	72.1
		1954	26.8	22.1	48.9	4.8	7.2	12.0	31.6	29.3	60.9
		1955	30.7	19.4	50.1	4.0	5.8	9.8	34.7	25.2	59.9
		1956	22.4	21.6	44.0	4.5	5.9	10.4	26.9	27.5	54.4
		1957	30.5	22.6	53.1	4.7	6.8	11.5	35.2	29.4	64.6
		1958	30.0	28.3	58.3	5.1	6.3	11.4	35.1	34.6	69.7
		1959	34.6	31.8	66.4	4.4	5.7	10.1	39.0	37.5	76.5
11.	HOUSING	1948	52.8		52.8	12.8		12.8	65.6		65.6
		1949	78.5		78.5	12.6		12.6	91.1		91.1
		1950	72.5		72.5	13.3		13.3	85.8		85.8
		1951	62.4		62.4	15.5		15.5	77.9		77.9
		1952	72.7		72.7	14.3		14.3	87.0		87.0
		1953	107.1		107.1	15.9		15.9	123.0		123.0
		1954	118.0		118.0	22.2		22.2	140.2		140.2
		1955	121.0		121.0	19.1		19.1	140.1		140.1
		1956	133.9		133.9	21.7		21.7	155.6		155.6
		1957	122.0		122.0	32.0		32.0	154.0		154.0
		1958	179.6		179.6	38.6		38.6	218.2		218.2
		1959	173.8		173.8	42.6		42.6	216.4		216.4
12.	INSTITUTIONAL SERVICES AND GOVERNMENT DEPARTMENTS	1948	*	*	57.2	*	*	17.1	*	*	74.3
		1949	63.1	8.7	71.8	10.7	5.5	16.2	73.8	14.2	88.0
		1950	64.1	6.1	70.2	15.4	4.6	20.0	79.5	10.7	90.2
		1951	88.7	10.7	99.4	21.1	5.4	26.5	109.8	16.1	125.9
		1952	106.0	12.8	118.8	10.0	6.0	16.0	116.0	18.8	134.8
		1953	154.1	11.8	165.9	27.3	5.7	33.0	181.4	17.5	198.9
		1954	120.9	12.9	133.8	22.1	3.8	25.9	143.0	16.7	159.7
		1955	150.5	11.6	162.1	21.1	5.1	26.2	171.6	16.7	188.3
		1956	159.5	10.9	170.4	30.8	6.7	37.5	190.3	17.6	207.9
		1957	169.2	13.8	183.0	34.8	5.3	40.1	204.0	19.1	223.1
		1958	167.4	14.8	182.2	32.6	5.9	38.5	200.0	20.7	220.7
		1959	178.8	14.3	193.1	32.6	4.3	36.9	211.4	18.6	230.0
13.	TOTAL (ITEMS 1 - 8 TO 12)	1948	*	*	284.6	*	*	105.5	*	*	390.1
		1949	225.5	125.9	351.4	55.0	63.2	118.2	280.5	189.1	469.6
		1950	249.8	147.6	397.4	62.4	61.4	123.8	312.2	209.0	521.2
		1951	300.0	186.4	486.4	79.1	69.3	148.4	379.1	255.7	634.8
		1952	384.2	217.5	601.7	70.5	89.0	159.5	454.7	306.5	761.2
		1953	477.6	251.6	729.2	91.9	76.0	167.9	569.5	327.6	897.1
		1954	437.4	189.8	627.2	93.0	86.9	179.9	530.4	276.7	807.1
		1955	548.1	187.1	735.2	87.9	95.0	182.9	636.0	282.1	918.1
		1956	622.8	278.4	901.2	102.8	111.6	214.4	725.6	390.0	1115.6
		1957	585.3	248.9	834.2	121.9	114.6	236.5	707.2	363.5	1070.7
		1958	679.5	231.4	910.9	124.0	114.6	238.6	803.5	346.0	1149.5
		1959	667.4	230.7	898.1	131.6	113.2	244.8	799.0	343.9	1142.9

* FIGURES NOT AVAILABLE.

** FIGURES INCLUDED IN TOTAL.

*** FIGURES INCLUDED IN OTHER MANUFACTURING FOR PREVIOUS YEARS.

1 1958 FIGURES - PRELIMINARY ACTUAL.

1 1959 FIGURES - INTENTIONS.

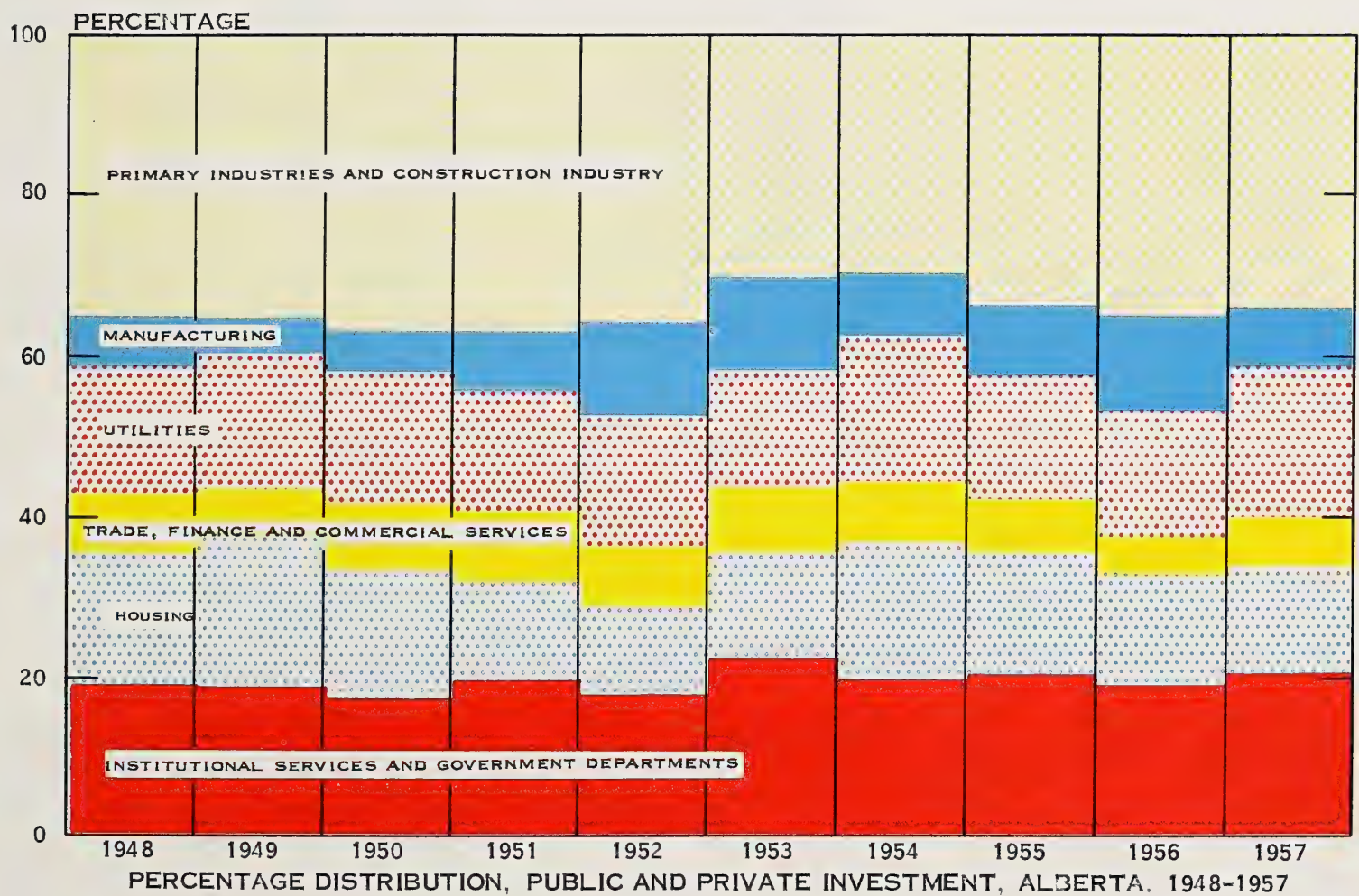
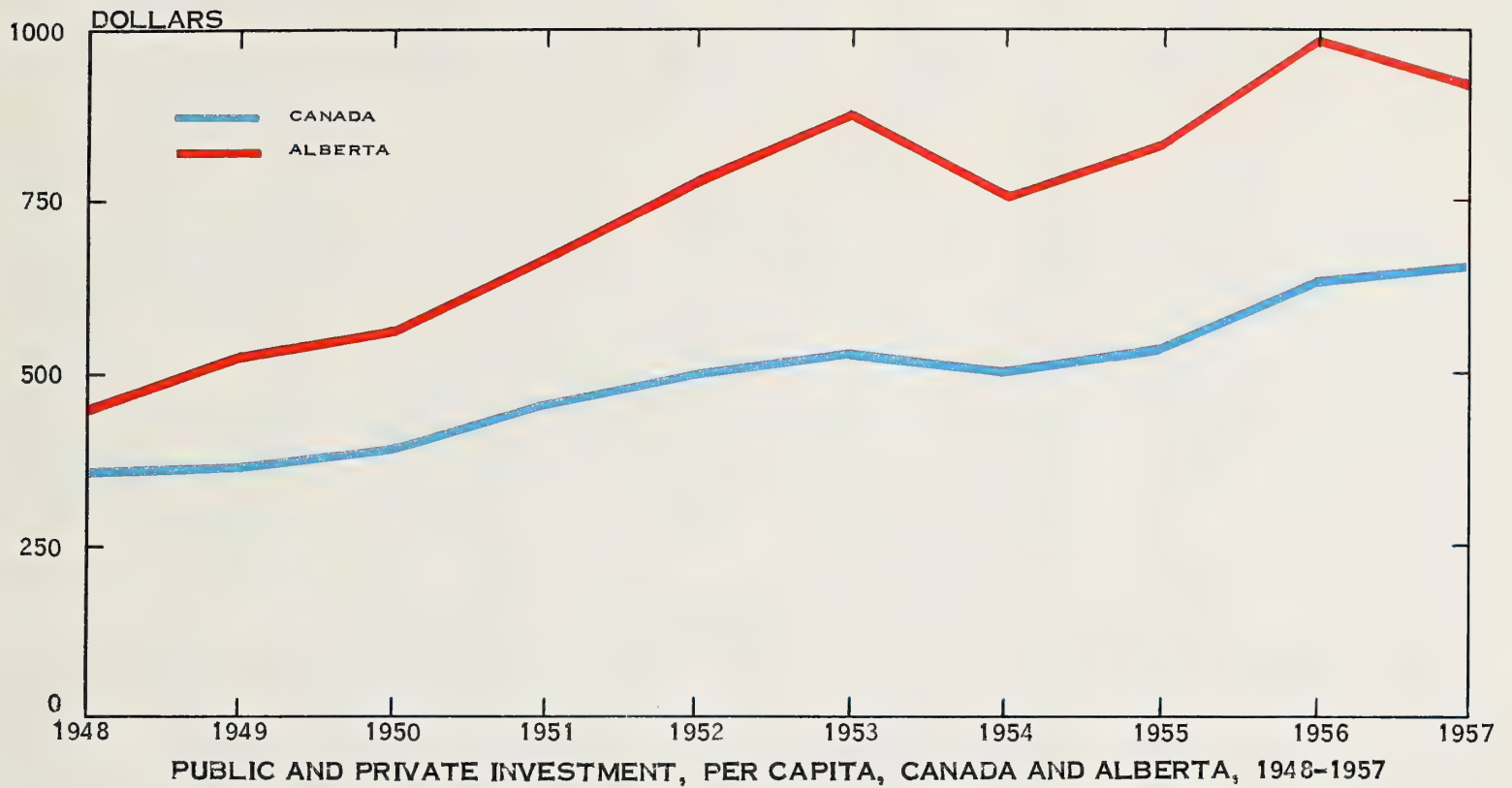


TABLE 64. THE CONSUMER PRICE INDEX — CANADA, 1914–1957
(1949 = 100)

YEAR	INDEX	YEAR	INDEX	YEAR	INDEX	YEAR	INDEX	YEAR	INDEX	YEAR	INDEX
1914	49.6	1922	74.9	1930	75.3	1938	63.7	1946	77.5	1954	116.2
1915	50.3	1923	75.2	1931	67.9	1939	63.2	1947	84.8	1955	116.4
1916	54.2	1924	74.0	1932	61.7	1940	65.7	1948	97.0	1956	118.1
1917	63.7	1925	74.6	1933	58.8	1941	69.6	1949	100.0	1957	121.9
1918	72.0	1926	75.9	1934	59.6	1942	72.9	1950	102.9		
1919	78.8	1927	74.6	1935	59.9	1943	74.2	1951	113.7		
1920	90.5	1928	75.0	1936	61.1	1944	74.6	1952	116.5		
1921	80.9	1929	75.8	1937	63.0	1945	75.0	1953	115.5		

TABLE 65. COMPONENT GROUP INDEXES OF THE CONSUMER PRICE INDEX — CANADA, 1935–1957
(1949 = 100)

YEAR	FOOD	SHELTER	CLOTHING	HOUSEHOLD OPERATION	OTHER COMMODITIES AND SERVICES	YEAR	FOOD	SHELTER	CLOTHING	HOUSEHOLD OPERATION	OTHER COMMODITIES AND SERVICES
1935	47.2	76.6	53.6	64.1	75.2	1947	79.5	95.1	78.9	86.2	91.6
1936	48.8	78.3	54.2	64.9	75.5	1948	97.5	98.3	95.6	96.8	96.5
1937	51.4	81.3	55.4	65.9	76.2	1949	100.0	100.0	100.0	100.0	100.0
1938	51.7	84.1	55.4	66.0	77.0	1950	102.6	106.2	99.7	102.4	103.1
1939	50.2	84.6	54.9	66.5	77.2	1951	117.0	114.4	109.8	113.1	111.5
1940	52.6	86.6	59.9	70.3	77.9	1952	116.8	120.2	111.8	116.2	116.0
1941	57.9	89.2	63.6	73.8	80.0	1953	112.6	123.6	110.1	117.0	115.8
1942	63.4	90.7	65.8	76.0	82.0	1954	112.2	126.5	109.4	117.4	117.4
1943	65.2	90.9	66.1	76.1	84.8	1955	112.1	129.4	108.0	116.4	118.1
1944	65.5	91.2	66.6	75.7	86.1	1956	113.4	132.5	108.6	117.1	120.9
1945	66.3	91.4	66.9	74.9	86.4	1957	118.6	134.9	108.5	119.6	126.1
1946	70.0	91.8	69.2	77.2	88.7						

TABLE 66. CONSUMER PRICE INDEXES FOR REGIONAL CITIES — CANADA, 1940–1957
(1949 = 100)

YEAR	ST. JOHN'S NFL'D	HALIFAX	SAINT JOHN	MONTREAL	OTTAWA	TORONTO	WINNIPEG	SASKATOON REGINA	EDMONTON CALGARY	VANCOUVER
1940		68.6	66.4	64.8	65.3	66.1	66.6	64.7	66.2	63.6
1941		71.3	69.8	68.6	68.7	69.9	69.8	68.5	69.0	66.9
1942		74.2	73.3	71.9	72.0	73.6	72.9	71.5	72.0	70.2
1943		76.0	74.7	73.4	73.1	74.4	74.0	72.6	73.9	72.4
1944		76.9	75.4	73.6	73.3	74.9	74.5	73.5	74.6	72.8
1945		77.6	75.8	74.4	73.8	75.3	75.2	74.0	75.3	73.6
1946		79.6	77.9	76.9	76.5	77.9	77.5	76.6	77.8	75.9
1947		86.3	84.6	84.3	84.5	85.5	84.3	84.4	84.6	83.3
1948		96.8	97.0	96.6	96.5	97.0	95.8	96.9	96.1	96.0
1949		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950		102.1	103.3	103.7	103.1	104.1	103.8	102.2	103.9	103.6
1951		112.1	114.1	116.1	115.3	115.4	114.6	111.7	113.5	114.3
1952	103.5	115.3	117.4	117.6	116.8	117.5	116.1	112.8	114.8	117.4
1953	102.2	113.2	115.3	116.3	115.0	116.8	114.4	113.1	114.0	116.1
1954	102.8	114.1	116.6	116.8	116.2	118.3	115.3	114.2	114.9	117.4
1955	104.2	114.8	117.7	116.9	117.2	118.8	115.9	114.6	114.6	117.9
1956	106.8	116.1	118.8	118.4	119.2	120.6	117.2	115.8	115.7	119.6
1957	109.4	119.8	122.6	121.8	123.2	125.2	120.0	119.1	118.8	122.6

WHOLESALE PRICES

TABLE 67. GENERAL WHOLESALE PRICE INDEX — CANADA, 1929–1957
(1935–1939 = 100)

YEAR	INDEX	YEAR	INDEX	YEAR	INDEX
1929	124.6	1939	99.2	1949	198.3
1930	112.9	1940	108.0	1950	211.2
1931	94.0	1941	116.4	1951	240.2
1932	86.9	1942	123.0	1952	226.0
1933	87.4	1943	127.9	1953	220.7
1934	93.4	1944	130.6	1954	217.0
1935	94.4	1945	132.1	1955	218.9
1936	96.8	1946	138.9	1956	225.6
1937	107.7	1947	163.3	1957	227.4
1938	102.0	1948	193.4		

TABLE 68. WHOLESALE PRICE INDEX NUMBERS CLASSIFIED ACCORDING TO — DEGREE OF MANUFACTURE
INDUSTRIAL MATERIALS, AND CANADIAN FARM PRODUCTS, 1931–1957
(1935–1939 = 100)

YEAR	RAW AND PARTLY MANUFAC- TURED	FULLY AND CHIEFLY MANUFAC- TURED	CANADIAN FARM PRODUCTS				YEAR	RAW AND PARTLY MANUFAC- TURED	FULLY AND CHIEFLY MANUFAC- TURED	CANADIAN FARM PRODUCTS			
			INDUSTRIAL MATERIALS	FIELD	ANIMAL	TOTAL				INDUSTRIAL MATERIALS	FIELD	ANIMAL	TOTAL
1931	83.2	99.5	86.8	65.0	92.7	78.9	1945	136.2	129.8	143.2	162.5	170.2	166.4
1932	75.5	92.8	74.2	60.4	70.5	65.5	1946	140.1	138.0	148.6	177.9	181.2	179.5
1933	79.3	93.3	78.3	69.3	69.2	69.3	1947	164.3	162.4	187.0	184.1	200.2	192.2
1934	89.9	97.7	86.8	80.5	86.5	83.5	1948	196.3	192.4	222.7	200.6	263.7	232.1
1935	93.8	94.7	90.3	84.4	94.1	89.2	1949	197.1	199.2	218.0	191.9	265.4	228.7
1936	98.2	96.1	96.9	102.2	93.7	97.9	1950	212.8	211.0	244.6	191.9	281.4	236.7
1937	113.7	104.4	116.3	128.9	106.0	117.4	1951	237.9	242.4	296.1	200.4	336.9	268.6
1938	99.4	103.5	95.8	100.9	104.8	102.9	1952	218.7	230.7	252.6	223.0	277.5	250.2
1939	94.9	101.9	99.0	83.7	101.5	92.6	1953	207.0	228.8	232.3	179.4	263.8	221.6
1940	103.1	109.9	113.3	85.4	106.7	96.1	1954	204.8	224.2	223.7	170.9	256.2	213.6
1941	114.4	118.8	125.2	88.9	124.4	106.6	1955	209.7	224.5	236.0	180.1	245.1	212.6
1942	123.0	123.7	135.1	109.7	144.6	127.1	1956	215.8	231.5	248.2	181.6	246.9	214.2
1943	131.1	126.9	140.0	129.0	161.8	145.4	1957	209.4	237.9	240.3	163.6	258.0	210.8
1944	134.4	129.1	143.1	144.5	166.1	155.3							

TABLE 69. TOTAL PERSONAL INCOME AND PER CAPITA PERSONAL INCOME,
CANADA, PRAIRIE PROVINCES AND ALBERTA,
1946 - 1956

YEAR	TOTAL PERSONAL INCOME			PER CAPITA PERSONAL INCOME		
	CANADA	PRAIRIE PROVINCES	ALBERTA	CANADA	PRAIRIE PROVINCES	ALBERTA
	\$	\$	\$	\$	\$	\$
1946	9,719,000,000	1,921,000,000	686,000,000	791	813	854
1947	10,375,000,000	1,975,000,000	729,000,000	827	823	884
1948	11,901,000,000	2,388,000,000	880,000,000	928	979	1,030
1949	12,638,000,000	2,413,000,000	892,000,000	940	975	1,008
1950	13,428,000,000	2,381,000,000	919,000,000	979	947	1,007
1951	15,824,000,000	3,215,000,000	1,228,000,000	1,130	1,262	1,308
1952	17,395,000,000	3,471,000,000	1,328,000,000	1,203	1,328	1,365
1953	18,336,000,000	3,452,000,000	1,373,000,000	1,235	1,287	1,272
1954	18,421,000,000	3,045,000,000	1,309,000,000	1,205	1,106	1,238
1955	19,820,000,000	3,398,000,000	1,401,000,000	1,263	1,210	1,284
1956	21,958,000,000	3,913,000,000	1,592,000,000	1,365	1,371	1,418

TABLE 70. COMPONENTS OF PERSONAL INCOME — ALBERTA, 1946-1956

YEAR	WAGES, SALARIES AND SUPPLEMEN- TARY LABOUR INCOME	NET INCOME RECEIVED BY FARM OPERATORS FROM FARM PRODUCTION	NET INCOME OF NON-FARM UNINCORPORATED BUSINESS
	\$	\$	\$
1946	289,000,000	190,000,000	69,000,000
1947	323,000,000	213,000,000	80,000,000
1948	386,000,000	286,000,000	93,000,000
1949	438,000,000	234,000,000	102,000,000
1950	486,000,000	189,000,000	104,000,000
1951	562,000,000	398,000,000	108,000,000
1952	643,000,000	381,000,000	129,000,000
1953	751,000,000	300,000,000	127,000,000
1954	784,000,000	190,000,000	118,000,000
1955	842,000,000	188,000,000	128,000,000
1956	948,000,000	243,000,000	138,000,000

YEAR	INTEREST, DIVI- DENDS AND NET RENTAL INCOME OF PERSONS	GOVERNMENT TRANSFER PAYMENTS	ADJUST- MENT	TOTAL
	\$	\$	\$	\$
1946	50,000,000	83,000,000	5,000,000	686,000,000
1947	57,000,000	59,000,000	- 3,000,000	729,000,000
1948	62,000,000	57,000,000	- 4,000,000	880,000,000
1949	60,000,000	61,000,000	- 3,000,000	892,000,000
1950	74,000,000	70,000,000	- 4,000,000	919,000,000
1951	93,000,000	71,000,000	- 4,000,000	1,228,000,000
1952	94,000,000	85,000,000	- 4,000,000	1,328,000,000
1953	103,000,000	95,000,000	- 3,000,000	1,373,000,000
1954	107,000,000	109,000,000	1,000,000	1,309,000,000
1955	124,000,000	117,000,000	2,000,000	1,401,000,000
1956	138,000,000	122,000,000	3,000,000	1,592,000,000

PERSONAL INCOME

Personal income is a measure of all current receipts of income in cash or in kind, of persons. Persons include individuals, private non-commercial institutions and private pension funds.

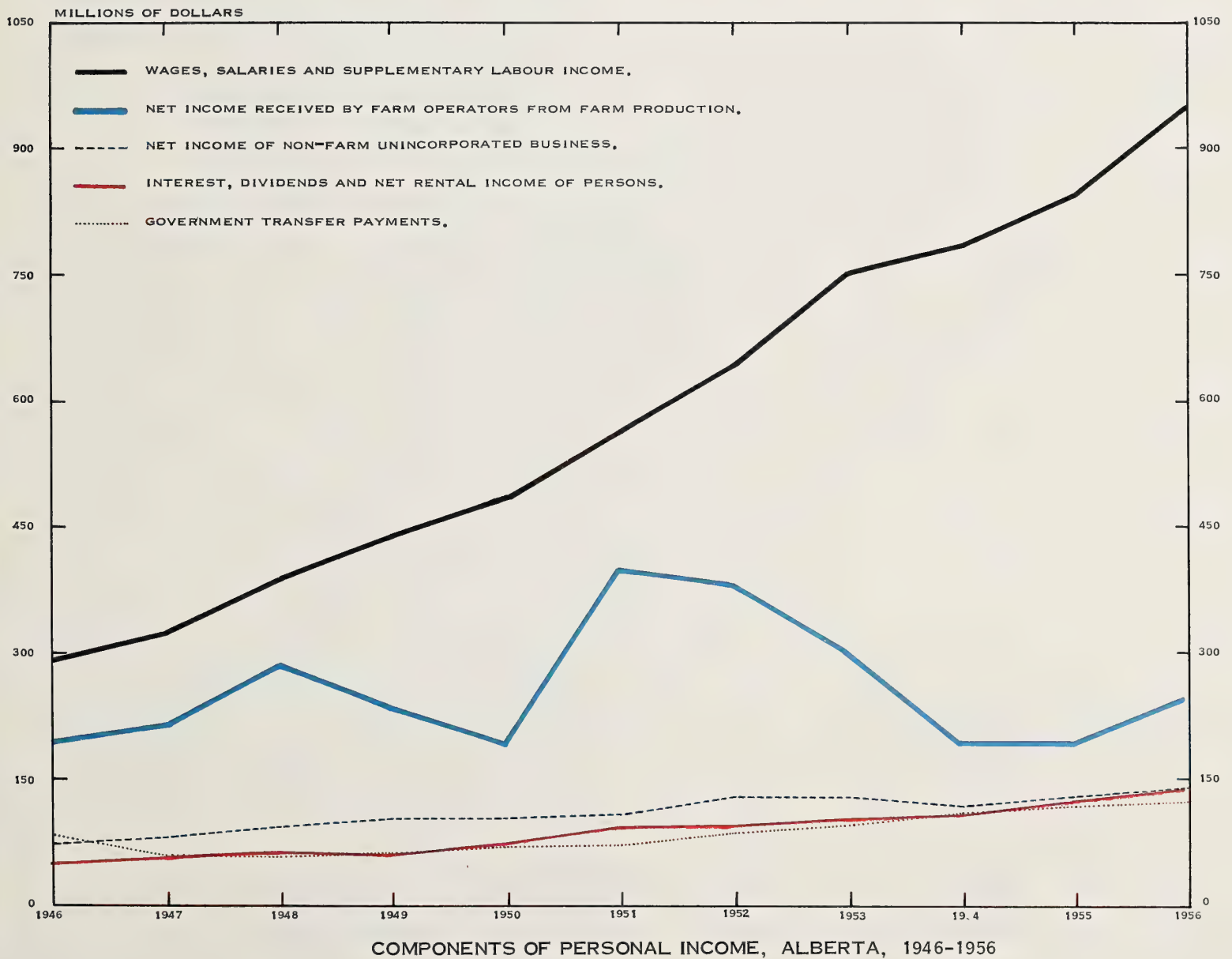
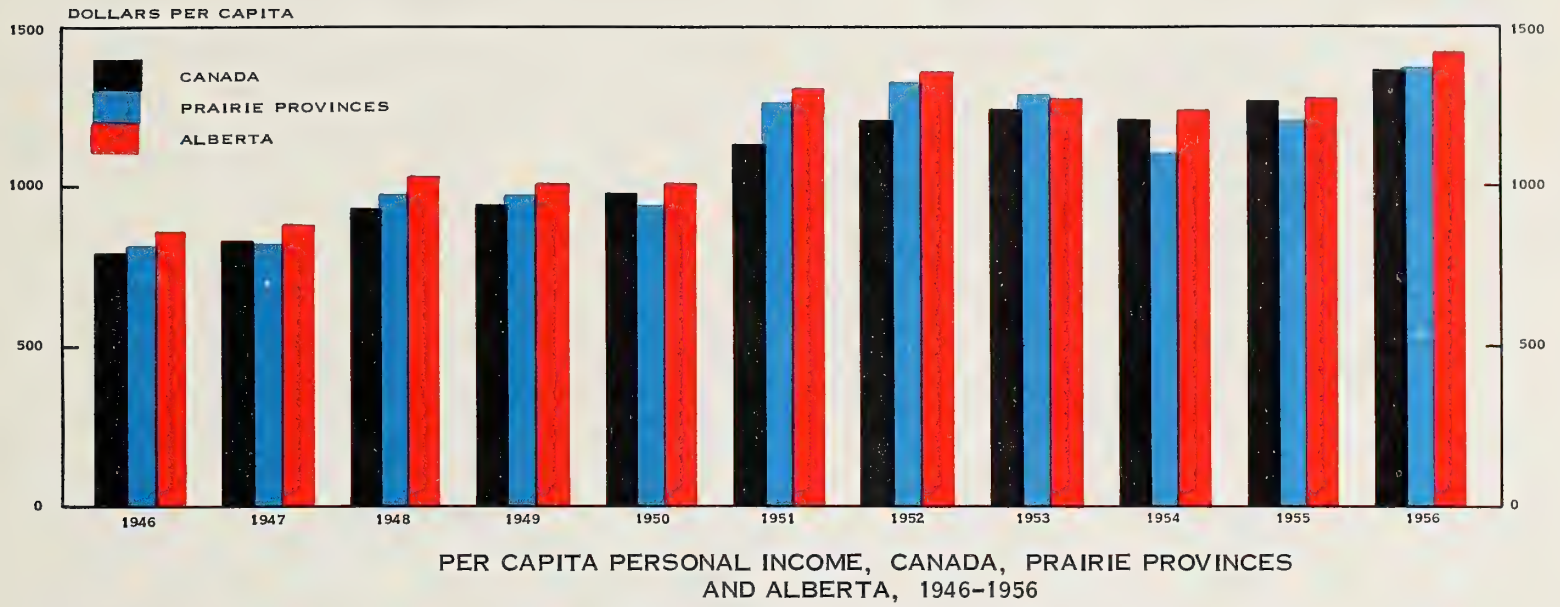
Included in personal income are wages, salaries, commissions and other labour income such as free room and board; transfer payments such as old age pensions; other payments for which no specific service is rendered; military pay allowances and a negative item, employer and employee contributions to social insurance and government pension funds. Undistributed corporation profits and profits of government operated enterprise are excluded from personal income.

Per capita personal income figures are a more meaningful measure than total personal income figures when comparing the personal income position of the provinces or various regions. The chart opposite illustrates Alberta's per capita personal income position with respect to Canada as a whole and the other prairie provinces. Between 1946 and 1957 the per capita personal income of Albertans rose from \$854 per capita to \$1,379, an increase of 61 per cent. As can be seen from the chart the Alberta figures have been above the per capita Canada figures for every year since 1946. Albertans have enjoyed the highest per capita personal income of the Prairies during the post war period, with the exception of the years 1951 and 1952 when Saskatchewan moved ahead as a result of bumper crop farming conditions. An average of the per capita personal figures over the past twelve years places Alberta (with \$1,178) first among the Prairie Provinces, followed by Saskatchewan with \$1,082, and Manitoba with \$1,076.

The second chart on the opposite page shows the growth of each component of personal income over the past twelve years. Personal income from interest dividends, net rental income and government transfer payments has increased modestly. Net income of non-farm unincorporated business increased steadily doubling over the period. Evident are the fluctuations in net income received by farm operators from farm production. Between 1946 and 1957 net income received by farm operators from farm production rose to a high of \$398 million in 1951 and then fell steadily to a low of \$188 million in 1955. It is noteworthy that although the agricultural community suffered a decline in net income each successive year from 1951 to 1955, total personal income rose each successive year with the exception of 1954. In fact during the twelve year period, 1954 was the only year in which total personal income declined. It is obvious that the rapid increase of wages, salaries and supplementary labour income has been an important factor in the growth of personal income.

The industrialization of the province and the concurrent expansion of the service and tertiary industries has brought about a significant increase in the labour force. There are now over 150,000 more persons receiving personal income in the form of salaries and wages than there were in 1946. The effects are seen on the chart opposite. Wages, salaries and supplementary labour income have increased more than threefold since 1946, from \$289 million to \$999 million. Their proportion of total income has changed from 42 per cent in 1946 to 62 per cent in 1957. Average rate of growth during the past twelve years has been more than ten per cent per annum cumulative.

The importance of the relative growth of wages, salaries and supplementary labour income cannot be stressed too strongly. Total personal income of the province is now less subject to the fluctuations of markets for agricultural produce and will as a result be less variable. This element of stability of personal income is extremely important since stable incomes assure dependable markets and provide for a general feeling of business confidence.



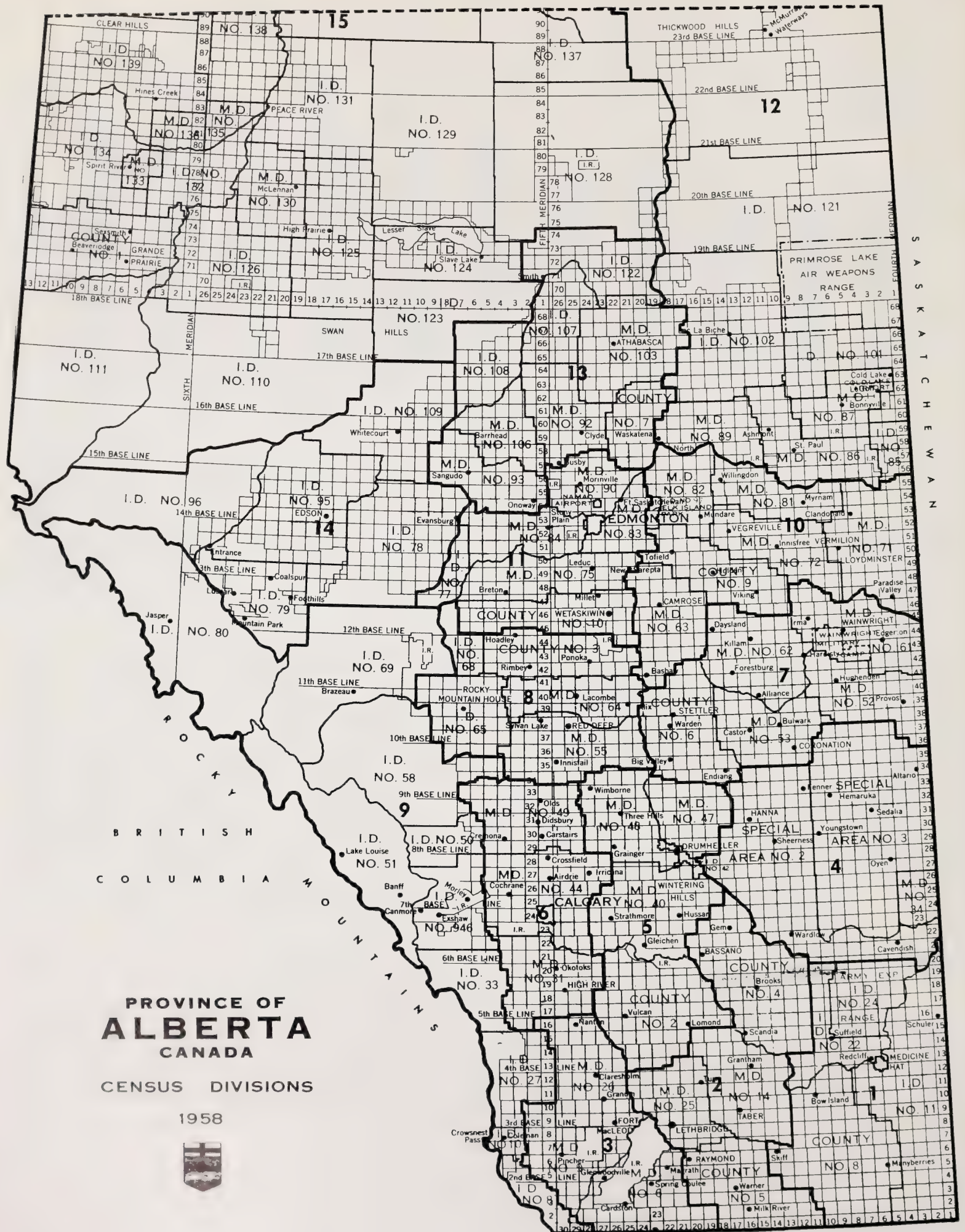


TABLE 71. POPULATION, BY CENSUS DIVISIONS, ALBERTA

1951, 1956				
1951			1956	
CENSUS DIVISION	NO.	PERCENT OF TOTAL %	NO.	PERCENT OF TOTAL %
1	28,317	3.0	34,496	3.1
2	67,694	7.2	74,991	6.7
3	27,667	2.9	30,426	2.7
4	13,182	1.4	14,294	1.3
5	39,055	4.2	38,120	3.4
6	177,441	18.9	237,886	21.2
7	40,217	4.3	40,214	3.6
8	57,513	6.1	64,168	5.7
9	19,496	2.1	17,239	1.5
10	70,677	7.5	71,500	6.3
11	235,475	25.1	323,539	28.8
12	39,886	4.2	44,947	4.0
13	46,638	5.0	45,033	4.0
14	14,443	1.5	15,846	1.4
15	61,800	6.6	70,417	6.3
TOTAL	939,501	100%	1,123,116	100%

TABLE 72. AREA AND DENSITY OF POPULATION FOR CENSUS DIVISIONS

ALBERTA, 1951, 1956

1951, 1956					
		1951		1956	
CENSUS DIVISION	LAND AREA IN SQUARE MILES	POPULATION	DENSITY	POPULATION	DENSITY
1	8,079	28,317	3.51	34,496	4.27
2	6,991	67,694	9.68	74,991	10.73
3	4,794	27,667	5.77	30,426	6.35
4	8,474	13,182	1.56	14,294	1.69
5	6,476	39,055	6.03	38,120	5.89
6	4,946	177,441	35.88	237,886	48.10
7	7,581	40,217	5.30	40,214	5.30
8	5,655	57,513	10.17	64,168	11.35
9	17,775	19,496	1.10	17,239	0.97
10	8,167	70,677	8.65	71,500	8.75
11	5,578	235,475	42.21	323,539	58.00
12	50,242	39,886	0.79	44,947	0.89
13	9,378	46,638	4.97	45,033	4.80
14	11,980	14,443	1.21	15,846	1.32
15	92,684	61,800	0.67	70,417	0.76
TOTAL	248,800	939,501	3.78	1,123,116	4.51

TABLE 73. POPULATION, RURAL AND URBAN, BY CENSUS DIVISIONS, ALBERTA, 1956

CENSUS DIVISION		TOTAL	RURAL				URBAN	
			TOTAL	PERCENT OF TOTAL ALBERTA	FARM	NON-FARM	TOTAL	PERCENT OF TOTAL ALBERTA
		No.	No.	%	No.	No.	No.	%
1	T	34,496	10,668	30.9	7,637	3,031	23,828	69.1
	M	17,695	5,807		4,214	1,593	11,888	
	F	16,801	4,861		3,423	1,438	11,940	
2	T	74,991	34,795	46.4	25,180	9,615	40,196	53.6
	M	38,707	18,808		13,648	5,160	19,899	
	F	36,284	15,987		11,532	4,455	20,297	
3	T	30,426	19,127	62.9	14,043	5,084	11,299	37.1
	M	15,883	10,345		7,474	2,871	5,538	
	F	14,543	8,782		6,569	2,213	5,761	
4	T	14,294	11,967	83.7	8,076	3,891	2,327	16.3
	M	7,952	6,753		4,631	2,122	1,199	
	F	6,342	5,214		3,445	1,769	1,128	
5	T	38,120	31,054	81.5	18,791	12,263	7,066	18.5
	M	20,365	16,753		10,248	6,505	3,612	
	F	17,755	14,301		8,543	5,758	3,454	
6	T	237,886	32,128	13.5	21,720	10,408	205,758	86.5
	M	122,339	17,290		11,873	5,417	105,049	
	F	115,547	14,838		9,847	4,991	100,709	
7	T	40,214	34,202	85.0	22,409	11,793	6,012	15.0
	M	21,276	18,295		12,260	6,035	2,981	
	F	18,938	15,907		10,149	5,758	3,031	
8	T	64,168	41,414	64.5	29,704	11,710	22,754	35.5
	M	33,679	22,315		16,094	6,221	11,364	
	F	30,489	19,099		13,610	5,489	11,390	
9	T	17,239	6,279	36.4	1,494	4,785	10,960	63.6
	M	9,264	3,590		817	2,773	5,674	
	F	7,975	2,689		677	2,012	5,286	
10	T	71,500	58,407	81.7	43,572	14,835	13,093	18.3
	M	37,701	31,269		23,723	7,546	6,432	
	F	33,799	27,138		19,849	7,289	6,661	
11	T	323,539	57,034	17.6	39,071	17,963	266,505	82.4
	M	165,262	31,158		21,230	9,928	134,104	
	F	158,277	25,876		17,841	8,035	132,401	
12	T	44,947	39,016	86.8	24,281	14,735	5,931	13.2
	M	24,168	21,087		13,082	8,005	3,081	
	F	20,779	17,929		11,199	6,730	2,850	
13	T	45,033	39,929	88.7	31,317	8,612	5,104	11.3
	M	24,367	21,831		17,274	4,557	2,536	
	F	20,666	18,098		14,043	4,055	2,568	
14	T	15,846	13,286	83.8	4,909	8,377	2,560	16.2
	M	9,093	7,771		2,732	5,039	1,322	
	F	6,753	5,515		2,177	3,338	1,238	
15	T	70,417	57,986	82.3	34,997	22,989	12,431	17.7
	M	38,170	31,828		19,498	12,330	6,342	
	F	32,247	26,158		15,499	10,659	6,089	
TOTAL	T	1,123,116	487,292	43.4	327,201	160,091	635,824	56.6
	M	585,921	264,900		178,798	86,102	321,021	
	F	537,195	222,392		148,403	73,989	314,803	

TABLE 74. —POPULATION BY AGE GROUPS—URBAN AND RURAL—BY SEX—ALBERTA, 1956

	URBAN						RURAL						TOTAL ALBERTA					
	No.	%	Female	%	Total	%	Male	%	Female	%	Total	%	Male	%	Female	%	Total	%
0-4	43,854	6.9	41,358	6.5	85,212	7.6	33,083	6.8	31,402	6.4	64,485	5.8	76,937	6.9	72,760	6.4	149,697	13.3
5-9	34,436	5.4	32,395	5.1	66,831	6.0	30,007	6.2	28,982	6.0	58,989	5.3	64,443	5.7	61,377	5.5	125,820	11.2
10-14	23,469	3.7	22,731	3.6	46,200	4.1	26,227	5.4	24,891	5.1	51,118	4.6	49,696	4.4	47,622	4.3	97,318	8.7
15-19	18,985	3.0	21,315	3.4	40,300	3.6	21,787	4.5	18,399	3.8	40,186	3.6	40,772	3.6	39,714	3.6	80,486	7.2
20-24	24,593	3.9	27,488	4.3	52,081	4.6	17,768	3.6	12,993	2.7	30,761	2.7	42,361	3.8	40,481	3.6	82,842	7.4
25-29	29,014	4.6	28,058	4.4	57,072	5.1	16,749	3.4	14,080	2.9	30,829	2.7	45,763	4.1	42,138	3.7	87,901	7.8
30-34	26,370	4.2	27,124	4.3	53,494	4.8	16,564	3.4	15,516	3.2	32,080	2.9	42,934	3.8	42,640	3.8	85,574	7.6
35-39	23,658	3.7	23,453	3.7	47,111	4.2	16,603	3.4	15,240	3.1	31,843	2.8	40,261	3.6	38,693	3.4	78,954	7.0
40-44	20,238	3.2	19,802	3.1	40,040	3.6	15,657	3.2	13,683	2.8	29,340	2.6	35,895	3.2	33,485	3.0	69,380	6.2
45-49	16,656	2.6	15,837	2.5	32,493	2.9	14,918	3.1	11,691	2.4	26,609	2.4	31,574	2.8	27,528	2.5	59,102	5.3
50-54	13,760	2.2	12,376	1.9	26,136	2.3	13,902	2.9	9,639	2.0	23,541	3.0	27,662	2.5	22,015	1.9	49,677	4.4
55-59	11,037	1.7	10,504	1.6	21,541	1.8	11,696	2.4	7,774	1.6	19,470	1.7	22,733	2.0	18,278	1.6	41,011	3.7
60-64	9,400	1.5	9,288	1.5	18,688	1.7	9,429	1.9	5,910	1.2	15,339	1.4	18,829	1.7	15,198	1.3	34,027	3.0
65-69	9,649	1.5	8,585	1.4	18,234	1.6	8,603	1.8	4,959	1.0	13,562	1.2	18,252	1.6	13,544	1.2	31,796	2.8
70-74	8,074	1.3	7,097	1.1	15,171	1.3	6,311	1.3	3,570	.7	9,881	.9	14,385	1.3	10,667	.9	25,052	2.2
75-79	4,697	.7	4,179	.7	8,876	.8	3,451	.7	2,116	.4	5,567	.5	8,148	.7	6,295	.6	14,443	1.3
80-84	2,126	.3	2,081	.3	4,207	.4	1,517	.3	982	.2	2,499	.2	3,643	.3	3,063	.3	6,706	.6
85-89	785	.1	835	.1	1,620	.1	496	.1	417	.1	913	.1	1,281	.1	1,252	.1	2,533	.2
90-94	197	-	241	-	438	-	110	-	119	-	229	-	307	-	360	-	667	.1
95 AND OVER	23	-	56	-	79	-	22	-	29	-	51	-	45	-	85	-	130	-
TOTAL	321,021	50.5	314,803	49.5	635,824	56.6	264,900	54.4	222,392	45.6	487,292	43.4	585,921	52.2	537,195	47.8	1,123,116	100%

TABLE 75. FAMILIES AND NUMBER OF PERSONS PER FAMILY — RURAL AND URBAN
BY CENSUS DIVISIONS — ALBERTA, 1956

	TOTAL FAMILIES	PERSONS IN FAMILY	AVERAGE NUMBER OF PERSONS PER FAMILY	--- NUMBER OF PERSONS IN FAMILY ---							
				2	3	4	5	6	7	8	9+
ALBERTA	262,922	981,289	3.7	75,224	57,938	58,976	36,140	18,328	8,313	3,919	4,084
RURAL	106,302	433,797	4.1	25,252	21,392	22,859	16,320	9,687	4,980	2,669	3,143
FARM	72,340	301,605	4.2	15,821	14,599	15,608	11,398	6,970	3,630	1,983	2,331
NON-FARM	33,962	132,192	3.9	9,431	6,793	7,251	4,922	2,717	1,350	686	812
URBAN	156,620	547,492	3.5	49,972	36,546	36,117	19,820	8,641	3,333	1,250	941
CENSUS DIVISION											
1	8,608	30,807	3.6	2,670	1,947	1,920	1,151	542	234	79	65
2	17,445	67,530	3.9	4,611	3,614	3,998	2,565	1,341	656	317	343
3	6,653	26,662	4.0	1,811	1,275	1,371	971	550	304	170	201
4	3,280	12,289	3.7	956	707	685	468	263	109	51	41
5	8,799	33,841	3.8	2,430	1,774	1,946	1,267	731	355	146	150
6	59,336	203,809	3.4	19,626	13,976	13,784	7,198	3,010	1,063	372	307
7	9,254	35,946	3.9	2,465	1,896	2,063	1,348	748	364	204	166
8	14,612	55,431	3.8	4,084	3,124	3,183	2,087	1,141	502	261	230
9	4,159	14,388	3.5	1,406	977	889	513	217	82	45	30
10	16,614	64,269	3.9	4,314	3,507	3,705	2,494	1,382	684	256	272
11	77,231	280,474	3.6	22,250	17,879	18,082	10,538	4,921	2,003	843	715
12	9,009	39,853	4.4	1,954	1,702	1,683	1,350	897	523	366	534
13	10,153	40,822	4.0	2,549	2,082	2,089	1,522	895	499	245	272
14	3,323	13,072	3.9	866	705	697	482	285	149	58	81
15	14,446	62,096	4.3	3,232	2,773	2,881	2,186	1,405	786	506	677

TABLE 76. NUMBER OF HOUSEHOLDS AND AVERAGE NUMBER OF PERSONS PER HOUSEHOLD
RURAL AND URBAN—BY CENSUS DIVISIONS—ALBERTA, 1956

CENSUS DIVISION	TOTAL		RURAL		URBAN	
	NUMBER OF HOUSEHOLDS	AVERAGE NUMBER OF PERSONS	NUMBER OF HOUSEHOLDS	AVERAGE NUMBER OF PERSONS	NUMBER OF HOUSEHOLDS	AVERAGE NUMBER OF PERSONS
	No.	No.	No.	No.	No.	No.
1	9,657	3.4	2,750	3.8	6,907	3.3
2	19,075	3.8	8,205	4.0	10,870	3.6
3	7,345	3.8	4,173	4.1	3,172	3.4
4	4,074	3.4	3,380	3.4	694	3.3
5	10,220	3.6	8,097	3.7	2,123	3.2
6	67,351	3.4	8,388	3.6	58,963	3.4
7	10,675	3.7	8,984	3.7	1,691	3.4
8	16,619	3.6	10,336	3.7	6,283	3.4
9	4,909	3.3	1,599	3.5	3,310	3.2
10	18,917	3.7	15,353	3.7	3,564	3.4
11	81,751	3.8	14,086	3.9	67,665	3.8
12	10,219	4.2	8,766	4.2	1,453	3.9
13	11,878	3.7	10,492	3.8	1,386	3.5
14	3,996	3.6	3,381	3.5	615	4.1
15	17,361	3.9	14,165	4.0	3,196	3.7
TOTAL			122,155		171,892	

TABLE 77. POPULATION OF INCORPORATED CITIES, TOWNS AND VILLAGES - ALBERTA

1931-1956

CITY (C), TOWN (T) OR VILLAGE (V)		CENSUS DIVISION	1931	1941	1946	1951	1956
ACME	V	5	234	285	282	275	292
AIRDRIE	V	6	198	191	198	267	327
ALBERTA BEACH	V	13	38	59	101	79	127
ALIX	V	8	241	360	428	461	517
ALLIANCE	V	7	260	233	243	281	313
AMISK	V	7	—	—	—	—	151
ANDREW	V	10	115	326	369	625	602
ARROWWOOD	V	5	293	251	206	222	240
ATHABASCA	T	13	573	578	747	1,068	1,293
BARONS	V	2	284	233	270	369	352
BARRHEAD	T	13	222	399	739	1,243	1,610
BASHAW	V	10	385	494	511	603	597
BASSANO	T	2	615	582	590	624	753
BAWLF	V	10	183	227	231	236	287
BEAVERLODGE	V	15	211	331	443	514	768
BEISEKER	V	6	230	240	272	325	321
BENTLEY	V	8	233	279	362	439	536
BERWYN	V	15	—	206	308	288	342
BEVERLY	T	11	1,111	981	1,171	2,159	4,602
BIG VALLEY	V	7	455	291	209	307	354
BITTERN LAKE	V	10	47	50	38	25	45
BLACK DIAMOND	V	6	683	890	1,380	1,154	991
BLACKFALDS	V	8	84	113	119	154	340
BLACKIE	V	6	251	223	222	224	198
BLAIRMORE	T	9	1,629	1,731	1,767	1,933	1,973
BONNYVILLE	T	12	362	603	730	1,139	1,495
BOTHA	V	7	107	111	112	98	102
BOWDEN	V	8	233	234	273	277	296
BOW ISLAND	T	1	314	291	432	653	1,001
BOWNESS	V	6	—	—	—	2,922	6,217
BOYLE	V	13	—	—	—	—	304
BROOKS	T	2	708	888	1,091	1,648	2,320
BRUDERHEIM	V	10	280	237	232	387	290
BURDETT	V	1	121	123	110	118	225
CALGARY	C	6	83,761	88,904	100,044	129,060	181,780
CALMAR	V	11	—	—	—	944	730
CAMROSE	C	10	2,258	2,598	2,967	4,131	5,817
CARBON	V	5	355	409	369	374	354
CARDSTON	T	3	1,672	1,864	2,334	2,487	2,607
CARMANGAY	V	5	279	229	229	285	299
CAROLINE	V	8	—	—	—	—	296
CARSTAIRS	V	6	387	371	385	468	449
CASTOR	T	7	634	625	647	798	958

CITY (C), TOWN (T) OR VILLAGE (V)		CENSUS DIVISION	1931	1941	1946	1951	1956
CAYLEY	V	6	127	133	140	139	146
CEREAL	V	4	185	142	111	135	154
CHAMPION	V	5	310	320	279	378	402
CHAUVIN	V	7	269	343	383	340	353
CHINOOK	V	4	176	142	130	116	154
CHIPMAN	V	10	284	240	194	180	192
CLARESHOLM	T	3	1,156	1,265	1,306	1,608	2,431
CLIVE	V	8	215	224	227	241	249
CLUNY	V	5	134	138	151	202	197
CLYDE	V	13	186	160	150	219	221
COALDALE	V	2	251	290	413	806	2,327
COCHRANE	V	6	293	298	405	530	707
COLD LAKE	T	12	—	—	—	—	1,097
COLEMAN	T	9	1,704	1,870	1,809	1,961	1,566
CONSORT	V	4	299	265	325	396	434
CORONATION	T	7	738	581	633	738	784
COWLEY	V	3	151	125	94	119	92
CRAIGMYLE	V	5	236	186	140	136	138
CREMONA	V	6	—	—	—	—	192
CROSSFIELD	V	6	321	409	433	443	459
CZAR	V	7	140	139	121	123	153
DAYSLAND	T	7	404	438	464	475	499
DELBURNE	V	8	193	308	379	395	429
DELIA	V	5	286	315	231	278	282
DERWENT	V	10	107	171	207	233	289
DEVON	T	11	—	—	—	842	1,429
DIDSBURY	T	6	801	892	980	1,180	1,227
DONALDA	V	7	169	206	220	318	256
DONNELLY	V	15	—	—	—	—	265
DRAYTON VALLEY	T	11	—	—	—	—	2,588
DRUMHELLER	C	5	2,987	2,748	2,659	2,601	2,632
DUCHESS	V	2	114	149	207	258	177
ECKVILLE	V	8	169	135	195	379	456
EDBERG	V	10	131	132	163	188	167
EDGERTON	V	7	189	258	273	309	292
EDMONTON	C	11	79,197	93,817	113,116	159,631	226,002
EDSON	T	14	1,547	1,499	1,571	1,956	2,560
ELK POINT	V	12	—	307	338	453	594
ELNORA	V	8	153	195	201	211	177
EMPRESS	V	4	314	341	417	411	480
ENTWISTLE	V	11	—	—	—	—	354
EVANSBURG	V	14	—	—	—	—	358
FAIRVIEW	T	15	260	432	487	929	1,260
FALHER	V	15	253	244	279	575	802
FERINTOSH	V	10	161	169	186	205	195
FOREMOST	V	1	—	—	—	375	456
FORESTBURG	V	7	291	231	243	443	552

CITY (C), TOWN (T) OR VILLAGE (V)		CENSUS DIVISION	1931	1941	1946	1951	1956
FOREST LAWN	V	6	—	899	646	1,079	3,150
FORT MACLEOD	T	3	1,447	1,912	1,649	1,860	2,103
FORT SASKATCHEWAN	T	11	1,001	903	921	1,076	2,582
FRANK	V	9	268	204	194	239	221
GADSBY	V	7	144	141	120	128	145
GALAHAD	V	7	150	145	166	198	215
GIROUXVILLE	V	15	—	—	—	—	300
GLEICHEN	T	5	514	435	477	430	581
GLENDON	V	12	—	—	—	—	314
GRANDE PRAIRIE	C	15	1,464	1,724	2,267	2,664	6,302
GRANUM	T	3	329	238	238	327	322
GRASSY LAKE	V	2	—	—	—	167	282
GRIMSHAW	V	15	137	169	287	564	904
GULL LAKE	V	8	—	21	39	32	32
HAIRY HILL	V	10	—	—	235	205	183
HALKIRK	V	7	160	118	121	148	209
HANNA	T	4	1,490	1,622	1,756	2,027	2,327
HARDISTY	T	7	428	457	494	536	628
HAY LAKES	V	10	125	154	199	231	193
HIGH PRAIRIE	T	15	—	—	643	1,141	1,743
HIGH RIVER	T	6	1,459	1,430	1,674	1,888	2,102
HINES CREEK	V	15	—	—	—	—	360
HOLDEN	V	10	230	361	382	504	544
HUGHENDEN	V	7	191	164	168	218	212
HUSSAR	V	5	151	116	130	120	168
HYTHE	V	15	278	247	288	342	481
INNISFAIL	T	8	1,024	1,223	1,272	1,417	1,883
INNISFREE	V	10	227	253	258	287	318
IRMA	V	7	196	273	345	369	421
IRRICANA	V	6	161	172	150	180	158
IRVINE	T	1	234	240	261	224	232
ITASKA BEACH	V	11	—	—	—	—	2
JASPER PLACE	T	11	—	—	—	9,139	15,957
KILLAM	V	7	326	347	430	465	524
KINUSO	V	15	—	—	—	238	306
KITSCOTY	V	10	280	234	240	235	283
LAC LA BICHE	T	12	313	517	642	905	967
LACOMBE	T	8	1,259	1,603	1,808	2,277	2,747
LAKEVIEW	V	11	—	—	—	15	41
LAMONT	V	10	507	438	468	637	632
LAVOY	V	10	151	178	127	122	127
LEDUC	T	11	900	871	920	1,842	2,008
LEGAL	V	11	350	462	445	523	457
LETHBRIDGE	C	2	13,489	14,612	16,522	22,947	29,462
LLOYDMINSTER	C	10	539	572	698	1,706	2,506
LOMOND	V	5	176	129	138	153	189
LOUGHEED	V	7	218	195	171	186	201

CITY (C), TOWN (T) OR VILLAGE (V)		CENSUS DIVISION	1931	1941	1946	1951	1956
MAGRATH	T	3	1,224	1,207	1,295	1,320	1,382
MA-ME-O-BEACH	V	11	—	—	—	98	137
MANNING	V	15	—	—	—	—	726
MANNVILLE	V	10	307	396	472	528	599
MARWAYNE	V	10	—	—	—	—	337
MAYERTHORPE	V	13	159	217	303	472	563
McLENNAN	T	15	—	—	823	1,074	1,092
McMURRAY	T	12	—	—	—	621	1,110
MEDICINE HAT	C	1	10,300	10,571	12,859	16,364	20,826
MILK RIVER	V	2	350	335	437	481	642
MILLET	V	11	300	325	348	402	427
MILO	V	5	135	129	108	141	167
MINBURN	V	10	119	129	198	186	150
MIRROR	V	8	534	570	562	635	591
MORINVILLE	T	11	570	580	735	892	957
MORRIN	V	5	149	216	177	226	267
MUNDARE	T	10	832	756	727	596	650
MUNSON	V	5	164	139	93	78	82
MYRNAM	V	10	131	216	308	388	440
NANTON	T	3	739	718	873	934	1,047
NEW NORWAY	V	10	142	169	179	258	273
NOBLEFORD	V	2	143	111	126	255	263
OKOTOKS	T	6	760	591	694	767	764
OLDS	T	6	1,056	1,337	1,521	1,617	1,980
ONOWAY	V	13	149	156	175	189	190
OYEN	V	4	401	326	339	433	562
PEACE RIVER	T	15	864	873	997	1,672	2,034
PENHOLD	V	8	125	183	134	174	213
PICTURE BUTTE	V	2	—	—	689	865	881
PINCHER CREEK	T	3	1,024	994	1,148	1,456	1,729
PONOKA	T	8	836	1,306	1,468	2,574	3,387
PROVOST	V	7	533	518	645	676	878
RADWAY	V	13	—	—	179	184	203
RAYMOND	T	2	1,849	2,089	2,116	2,279	2,399
REDCLIFF	T	1	1,192	1,111	1,289	1,538	2,001
RED DEER (INC. NORTH RED DEER)	C	8	2,662	3,448	4,740	7,575	12,338
REDWATER	T	13	—	—	—	1,306	1,065
RIMBEY	T	8	304	410	634	757	980
ROCKYFORD	V	5	194	201	226	246	226
ROCKY MOUNTAIN HOUSE	T	8	646	800	1,017	1,147	1,285
ROSEMARY	V	2	—	—	—	—	158
RUMSEY	V	5	83	90	98	110	104
RYCROFT	V	15	—	—	272	372	424
RYLEY	V	10	236	323	338	406	495
ST. ALBERT	T	11	825	697	804	1,129	1,320
ST. PAUL	T	12	938	1,018	1,187	1,407	2,229

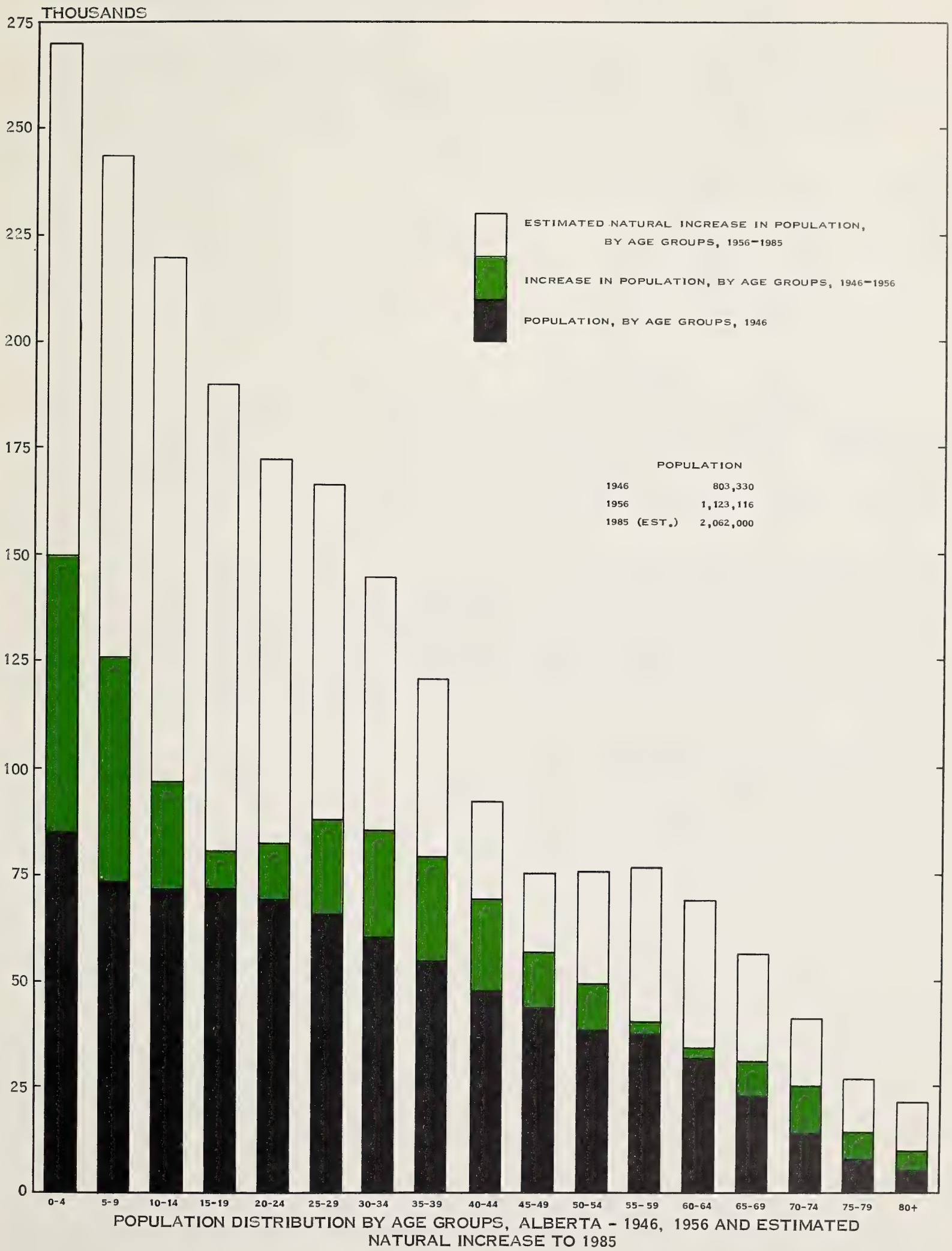
CITY (C), TOWN (T) OR VILLAGE (V)		CENSUS DIVISION	1931	1941	1946	1951	1956
SANGUDO	V	13	—	173	236	269	331
SEBA BEACH	V	11	41	84	77	103	141
SEDGEWICK	V	7	338	320	417	485	608
SEXSMITH	V	15	304	325	302	331	345
SILVER BEACH	V	11	—	—	—	—	17
SMOKY LAKE	V	12	366	430	457	491	563
SPRIT RIVER	T	15	232	276	362	553	743
SPRUCE GROVE	V	11	—	—	—	—	309
STANDARD	V	5	218	212	244	237	230
STAVELY	T	3	303	273	299	327	338
STETTLER	T	7	1,219	1,295	1,499	2,442	3,359
STIRLING	V	2	376	437	446	520	430
STONY PLAIN	T	11	497	566	720	878	1,098
STRATHMORE	T	5	523	560	603	704	727
STROME	V	7	172	233	233	276	306
SUNDRE	V	6	—	—	—	337	923
SYLVAN LAKE	T	8	416	805	971	985	1,114
TABER	T	2	1,279	1,331	1,760	3,042	3,688
THORHILD	V	13	—	—	—	248	288
THORSBY	V	11	—	—	—	385	411
THREE HILLS	T	5	581	706	952	1,026	1,095
TILLEY	V	2	—	193	192	259	240
TOFIELD	T	10	497	551	608	692	800
TROCHU	V	5	506	480	515	630	680
TURNER VALLEY	V	6	656	676	1,157	719	704
TWO HILLS	V	10	149	210	289	525	713
VALLEY VIEW	V	15	—	—	—	—	973
VAUXHALL	V	2	—	—	—	393	713
VEGREVILLE	T	10	1,659	1,696	1,563	2,223	2,574
VERMILION	T	10	1,270	1,408	1,630	1,982	2,196
VETERAN	V	4	180	190	191	206	241
VIKING	V	10	492	491	526	683	897
VILNA	V	12	151	311	322	378	374
VULCAN	T	5	803	732	786	1,040	1,204
WAINWRIGHT	T	7	1,147	980	1,261	1,996	2,653
WARBURG	V	11	—	—	—	—	257
WARNER	V	2	342	296	370	422	450
WARSPITE	V	12	—	—	—	—	159
WASKATENAU	V	12	—	237	258	239	289
WEMBLEY	V	15	183	188	237	251	272
WESTLOCK	T	13	536	590	854	1,111	1,136
WETASKIWIN	C	11	2,125	2,318	2,645	3,824	4,476
WILDWOOD	V	14	—	—	—	405	547
WILLINGDON	V	10	250	420	436	281	431
YOUNGSTOWN	V	4	372	188	235	352	305

TABLE 78. POPULATION, BIRTHS, MARRIAGES, DEATHS, AND RATES — ALBERTA, 1905-1957

	POPULATION	NUMBER OF BIRTHS *	BIRTH RATE PER 1,000 POPULATION	NUMBER OF MARRIAGES	MARRIAGE RATE PER 1,000 POPULATION	NUMBER OF DEATHS *	DEATH RATE PER 1,000 POPULATION	INFANTILE DEATH RATE PER 1,000 LIVE BIRTHS	MATERNAL DEATH RATE PER 1,000 LIVE BIRTHS	RATE OF NATURAL INCREASE PER 1,000 POPULATION	RATIO OF TOTAL BIRTHS TO TOTAL DEATHS
1905		421		187		114					
1906	185,000	3,003	16.2	927	5.0	1,091	5.9	90.0		10.3	2.8
1907	236,000	4,732	20.1	1,907	8.1	1,578	6.7	100.3	6.3	13.4	3.0
1908	266,000	5,973	22.5	2,032	7.6	2,188	8.2	126.6	6.0	14.3	2.7
1909	301,000	6,897	22.9	2,384	7.9	2,662	8.8			14.1	2.6
1910	336,000	8,321	24.8	3,086	9.2	3,526	10.5	129.5	8.6	14.3	2.4
1911	374,000	8,813	23.6	3,630	9.7	3,618	9.7	134.5	9.8	13.9	2.4
1912	400,000	10,284	25.7	4,429	11.1	4,232	10.6	124.8	8.3	15.1	2.4
1913	429,000	11,871	27.7	5,053	11.8	4,432	10.3	120.5	7.1	17.4	2.7
1914	459,000	13,685	29.8	4,623	10.1	4,417	9.6	100.5	6.1	20.2	3.1
1915	480,000	13,452	28.0	4,202	8.8	3,588	7.5	87.9	5.8	20.5	3.7
1916	496,000	13,331	26.9	4,230	8.5	4,058	8.2	90.5	7.2	18.7	3.3
1917	508,000	13,576	26.7	4,270	8.4	4,047	8.0	87.3	6.5	18.7	3.4
1918	522,000	14,890	28.5	4,048	7.8	7,924	15.2	107.1	5.5	13.3	1.9
1919	541,000	14,130	26.1	4,718	8.7	5,507	10.2	110.3	6.4	15.9	2.6
1920	565,000	16,565	29.3	5,110	9.0	5,675	10.0	93.7	8.3	19.3	2.9
1921	588,000	16,561	28.2	4,661	7.9	4,940	8.4	84.0	6.7	19.8	3.4
1922	592,000	16,163	27.3	4,272	7.2	5,264	8.9	91.3	6.9	18.4	3.1
1923	593,000	15,060	25.4	4,117	6.9	5,006	8.4	94.2	5.6	17.0	3.0
1924	597,000	14,597	24.5	4,159	7.0	4,858	8.1	84.1	6.2	16.4	3.0
1925	602,000	14,924	24.8	4,355	7.2	4,697	7.8	75.4	5.8	17.0	3.2
1926	608,000	14,456	23.8	4,503	7.4	5,159	8.5	85.3	5.9	15.3	2.8
1927	633,000	14,897	23.5	4,707	7.4	5,059	8.0	74.5	6.4	15.5	2.9
1928	658,000	15,692	23.8	5,776	8.8	5,699	8.7	76.5	6.8	15.1	2.8
1929	684,000	16,924	24.7	6,004	8.8	6,239	9.1	77.4	7.3	15.6	2.7
1930	708,000	17,649	24.9	5,334	7.5	5,496	7.8	63.6	6.5	17.1	3.2
1931	732,000	17,252	23.6	5,142	7.0	5,302	7.2	69.4	5.0	16.4	3.3
1932	740,000	16,990	23.0	5,054	6.8	5,521	7.5	58.7	3.8	15.5	3.1
1933	750,000	16,123	21.5	5,389	7.2	5,346	7.1	59.9	4.5	14.4	3.0
1934	758,000	16,236	21.4	6,053	8.0	5,337	7.0	54.9	5.0	14.4	3.0
1935	765,000	16,183	21.2	6,010	7.9	5,729	7.5	57.8	4.3	13.7	2.8
1936	773,000	15,786	20.4	6,020	7.8	6,147	8.0	59.5	5.8	12.4	2.6
1937	776,000	15,903	20.5	6,345	8.2	6,261	8.1	62.5	4.8	12.4	2.5
1938	781,000	15,891	20.3	6,973	8.9	5,871	7.5	51.1	4.3	12.8	2.7
1939	786,000	16,470	21.0	7,838	10.0	5,789	7.4	46.3	3.6	13.6	2.8
1940	790,000	17,359	22.0	8,782	11.1	6,203	7.9	48.0	4.0	14.1	2.8
1941	796,000	17,308	21.7	8,470	10.6	6,385	8.0	50.8	3.1	13.7	2.7
1942	776,000	18,317	23.6	9,034	11.6	6,091	7.8	38.0	2.3	15.8	3.0
1943	785,000	19,290	24.6	7,771	9.9	6,524	8.3	42.0	2.7	16.3	3.0
1944	808,000	19,372	24.0	7,299	9.0	6,320	7.8	45.9	1.6	16.2	3.1
1945	808,000	19,939	24.7	7,310	9.0	6,454	8.0	43.2	2.4	16.7	3.1
1946	803,000	22,184	27.6	9,478	11.8	6,601	8.2	42.6	1.4	19.4	3.4
1947	825,000	24,631	29.9	8,797	10.7	6,543	7.9	37.1	0.9	22.0	3.8
1948	854,000	24,075	28.2	8,844	10.4	6,987	8.2	38.6	1.2	20.0	3.4
1949	885,000	24,935	28.2	9,037	10.2	7,083	8.0	33.0	1.0	20.2	3.5
1950	913,000	25,625	28.1	9,294	10.2	6,856	7.5	32.4	0.7	20.6	3.7
1951	939,000	27,003	28.8	9,305	9.9	7,167	7.6	32.9	0.6	21.2	3.8
1952	973,000	29,105	29.9	9,514	9.8	7,345	7.5	30.2	0.5	22.4	4.0
1953	1,012,000	31,376	31.0	10,126	10.0	7,646	7.6	29.6	0.7	23.4	4.1
1954	1,057,000	33,593	31.8	9,960	9.4	7,520	7.1	26.3	0.3	24.7	4.5
1955	1,091,000	34,357	31.5	9,844	9.0	7,956	7.3	25.8	0.4	24.2	4.3
1956	1,123,000	34,951	31.1	9,965	8.9	7,786	6.9	24.6	0.4	24.2	4.5
1957 **	1,160,000	35,732	30.8	10,117	8.7	8,255	7.1	27.0	0.3	23.7	4.3

* EXCLUSIVE OF STILLBIRTHS

** PRELIMINARY



INDUSTRIAL INFORMATION SERVICES

The government of the Province of Alberta provides for the assistance of industry. Information and advice can be obtained from the chartered banks, railways, and utility companies. Industrial commissioners provide local detail in the larger cities and towns.

Some of the services available for furthering industrial development are outlined briefly below.

INDUSTRIAL DEVELOPMENT BRANCH:

The Industrial Development Branch provides free services to industry. Surveys are conducted to determine markets, availability of raw materials, plant locations, labour, water supply and power. Industrial Surveys have been prepared for publication and distribution on Alberta cities, towns and villages. These reports and other informative booklets and maps are available on request. The sale and export of Alberta made products is encouraged through the medium of displays at trade fairs and exhibitions.

RESEARCH COUNCIL OF ALBERTA:

The Council engages in research studies on Alberta's natural resources to facilitate their development. Geological teams investigate mineral occurrences and deposits to determine quality and volume. The fossil fuels -- coal, petroleum and natural gas receive emphasis in the research programs -- both fundamental and applied. A technical information service is offered to assist industry with their problems. Under some conditions laboratory tests and investigations are undertaken for industry.

ALBERTA BUREAU OF STATISTICS:

The Bureau maintains an extensive statistical library containing useful economic data and up-to-date information on a wide range of commodities and industries. Market surveys on specific items will be undertaken upon request of serious inquirers. The Bureau publishes monthly and periodical publications in which current and long term economic trends and indicators are documented and analyzed. Business men are invited to inquire and make use of the Bureau's services which are provided without charge.

PROVINCIAL MARKETING BOARD:

The basic functions of the Board are to encourage utilization of Alberta's natural resources, to assist small manufacturing industries through the mass buying of raw materials, and to assist in the distribution and sale of Alberta made goods. Materials may be purchased in bulk and held in storage on the client's premises for use when actually required. This permits small businesses to benefit from purchasing at the best possible price available. Advertising and direct contact promotion are used to encourage the use of Alberta's resources and the sale of Alberta manufactured products.

PUBLIC SECURITIES COMMISSION:

A function of the Commission is the regulation and control of issuing of stocks and bonds for sale to the public. Advice on the financing of new industry is available on request.

INDUSTRIAL DEVELOPMENT BANK:

The purpose of the bank is to advance money to small industries requiring capital but too small to undertake profitable public financing. An economic study of each business is carried out and approved loans are based on first mortgages on equipment and buildings. Loans are made only for the purchase of capital equipment and not for payment of operating expenses.

CHARTERED BANKS:

Special industrial development departments are maintained by the chartered banks, utility companies and railways. Many cities and towns have industrial commissioners. These sources are particularly useful for questions concerning local conditions. Inquiries should be directed to the following addresses.

BANKS

BANK OF MONTREAL:

Business Development Department, Main Branch,
8 Ave. & 1 St. W., Calgary, Alberta.

The Manager, Main Branch,
Jasper Avenue & 101 St., Edmonton, Alberta.

BANK OF NOVA SCOTIA :

The Manager, Main Branch,
125 8 Ave. W., Calgary, Alberta.

The Manager,
10050 Jasper Avenue, Edmonton, Alberta.

CANADIAN BANK OF COMMERCE :

Business Development Department, Main Branch,
309 8 Ave. S.W., Calgary, Alberta.

The Supervisor, Oil and Gas Department,
Western Canada, 001 Mobil Bldg., 8 Ave. W.,
Calgary, Alberta.

The Manager, Main Branch,
Jasper Avenue & 101 St., Edmonton, Alberta.

IMPERIAL BANK OF CANADA :

The Manager,
102 8 Ave. E., Calgary, Alberta.

The Manager, Main Branch,
9990 Jasper Avenue, Edmonton, Alberta.

ROYAL BANK OF CANADA :

Business Development Department, Main Branch,
4 St. W. & 8 Ave., Calgary, Alberta.

The Manager, Main Branch,
10023 Jasper Avenue, Edmonton, Alberta.

TORONTO DOMINION BANK :

Business Development Department, Main Branch,
114 8 Ave. W., Calgary, Alberta.

The Manager,
10038 Jasper Avenue, Edmonton, Alberta.

TREASURY BRANCH - GOVERNMENT OF ALBERTA :

The Manager, Main Branch,
Centre St. & 8 Ave. E., Calgary, Alberta.

The Manager, Main Branch,
9954 Jasper Avenue, Edmonton, Alberta.

RAILWAYS

THE CANADIAN PACIFIC RAILWAY COMPANY

Industrial Agent, C.P.R. Station,
9 Ave., Calgary, Alberta.

THE CANADIAN NATIONAL RAILWAY COMPANY

Industrial Agent, C.N.R. Station,
Edmonton, Alberta.

UTILITY COMPANIES

CALGARY POWER LIMITED:

Director of Industrial Development,
140 1 Ave. W., Calgary, Alberta.

CANADIAN WESTERN NATURAL GAS CO. LTD.:

Customer Sales and Service Department,
6 Ave. & 1 St. W., Calgary, Alberta.

NORTHWESTERN UTILITIES LTD. :

New Business Department,
10040 104 St., Edmonton, Alberta.

INDUSTRIAL DEVELOPMENT
DEPARTMENTS

CITY OF CALGARY:

Co-ordinator of Industrial Development, City of
Calgary, City Hall, Calgary, Alberta.

CITY OF EDMONTON :

Director of Industrial Development, City of
Edmonton, City Hall, Edmonton, Alberta.

CITY OF LETHBRIDGE:

Industrial Commissioner, City of Lethbridge,
City Hall, Lethbridge, Alberta.

CITY OF MEDICINE HAT:

Industrial Representative, Chamber of Commerce,
Medicine Hat, Alberta.

CITY OF RED DEER :

Industrial Representative, City of Red Deer,
Red Deer, Alberta.

CITY OF CAMROSE :

Industrial Representative, City of Camrose,
c/o CFCW Radio Station, Camrose, Alberta.

CITY OF DRUMHELLER :

Industrial Co-ordinator, City of Drumheller,
Box 331, Drumheller, Alberta.

CITY OF GRANDE PRAIRIE :

Industrial Representative, City of Grande Prairie,
Grande Prairie, Alberta.

CITY OF WETASKIWIN :

Industrial Representative, City of Wetaskiwin,
5111 47 Ave., Wetaskiwin, Alberta.

TOWN OF PONOKA :

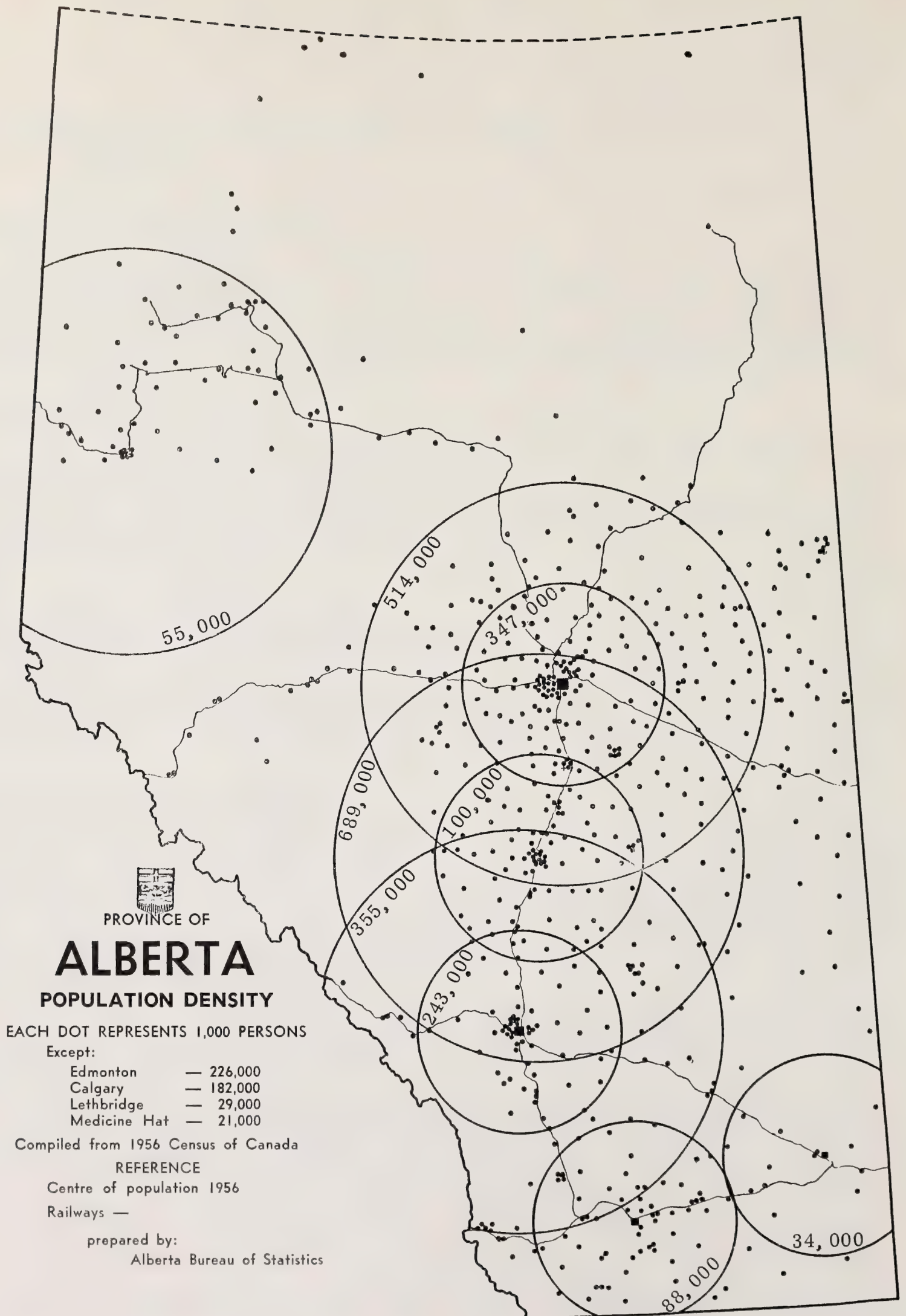
Industrial Representative, Town of Ponoka,
Box 1065, Ponoka, Alberta.

TOWN OF VERMILION :

Industrial Representative, Town of Vermilion,
Vermilion, Alberta.

TOWN OF STETTTLER :

Industrial Representative, Town of Stettler,
Stettler, Alberta.



ALBERTA CITIES

Alberta's urban population has increased rapidly during recent years. This is largely due to the Edmonton and Calgary metropolitan areas having maintained the highest rate of population growth in Canada since 1946. A brief resume of facts and figures for each city follows. A comparison of the industrial location factors of each city is set out in an accompanying table. No attempt has been made to weight these factors according to their relative importance to prospective industry. "Industrial Surveys" of each of the major cities and of a great many smaller centres can be obtained from the Industrial Development Branch, Government of Alberta, on request. In most instances, detailed information can be obtained covering points of particular interest to individual industries.

The cities mentioned are only a representative sampling of the sites available for prospective industry. General information on local supply of raw materials, industrial fuels, etc. would apply to any of the towns and villages in the surrounding areas.

CALGARY

Calgary was named in 1876 by Col. Macleod, who, as commanding officer of the North West Mounted Police, had ordered the building of a fort at the junction of the Bow and Elbow Rivers. The name is said to mean "clear running water". The city is 840 miles west of Winnipeg, 620 miles east of Vancouver, and 135 miles north of the United States-Canadian border.

In 1882 Calgary was merely an outpost fort. The Canadian Pacific Railway reached Calgary in 1883 and started the first local boom. By 1901 there was a population of 4,091. By 1951 the population of metropolitan Calgary had increased to 139,100 and in 1958 the estimated population of the metropolitan area was 223,500. This rate of growth was the second highest in Canada, being exceeded only by that in the Edmonton area.

Calgary is the centre of a rich agricultural area. Its wholesale houses serve a trading area including all Alberta south of Red Deer, and southeastern British Columbia. Cheap electric power, huge reserves of natural gas, and an abundant water supply are inducements to the establishment of manufacturing industries. In 1957 the gross value of manufacturing in Calgary was approximately \$222,900,000, employees numbered 11,000, salaries and wages paid amounted to \$41,000,000. The banking and financial centre of Alberta is at Calgary and in 1957 accounted for 66 per cent of the \$8,414,000,000 bank clearings within the province.

Calgary has a diversity of transportation services available. It is served by the Canadian Pacific Railway transcontinental line. There are also Canadian Pacific Railway lines north to Edmonton connecting with the Northern Alberta Railway, and south to Lethbridge and the Crowsnest Pass. Canadian National Railway lines from the north and northeast terminate at Calgary. The Trans-Canada highway runs through the city. The modern municipally owned airport is within five miles of the city centre, and is fully equipped with navigational aids and instrument landing systems. Scheduled service is provided by three major airlines.

There are excellent educational facilities available, including a branch of the University of Alberta. Hospitals in the city had a capacity of 2,491 beds in 1957. Provision has been made for most sports and recreational activities. Good fishing and hunting can be found within two hours driving distance. Banff National Park is only 85 miles away. The annual "Stampede Week", held in the second week in July, now attracts approximately one-half million attendance per year. The 2,700 seat Jubilee Auditorium provides unexcelled accommodation for cultural activities.

EDMONTON

Fort Edmonton was founded by the Hudson's Bay Company in 1795, some fifteen miles downstream on the North Saskatchewan River from the city's present site. The fort was moved in 1808 and by 1901 the settlement had 2,626 inhabitants. Population of metropolitan Edmonton in 1951 was 173,000 and by 1958 it had increased to 280,000. Since 1951 the population has grown at the highest rate of any metropolitan area in Canada. The city is near the geographic centre of the province. The area within a 50 mile radius is the most densely populated section of Alberta.

A rich agricultural area predominately utilized for mixed farming, surrounds the city. Edmonton's wholesale houses serve a trading area including all of Alberta from Red Deer north, the Mackenzie Basin of the North West Territories, northeastern British Columbia, and the Yukon Territory. Cheap electric power and tremendous reserves of crude oil, natural gas, and coal are available in the vicinity. These, plus an adequate water supply from the North Saskatchewan River, make it very attractive for establishment of industry. The gross value of manufacturing in the Edmonton area in 1957 was approximately \$370,900,000, employees numbered 15,600, and wages paid amounted to \$56,900,000. Oil industry and air transportation interests respectively have called it "The Oil Centre of Canada" and "The Crossroads of the World".

Edmonton is on the Canadian National Railway transcontinental rail line and has Canadian Pacific Railway and Canadian National Railway connections to Calgary. Branch rail lines fan out in all directions to service central and northern Alberta. The Northern Alberta Railway originates in the city, providing service to connect with the Mackenzie River water transport system and the Peace River area. The main access to the Alaska Highway is through Edmonton. The modern municipally owned airport is within the city proper, and is fully equipped with navigational aids and instrument landing systems. A new international airport at Nisku (10 miles to the south) is expected to be in service by 1960. Scheduled air service is provided by five major airlines and includes regular freight runs to northern points.

There are complete educational facilities, including the University of Alberta. Hospitals in the city had a capacity of 3,081 beds in 1957.

Provision has been made for most sports and recreational activities. Good hunting and fishing can be found within a few hours driving distance. Banff and Jasper National Parks are both within an easy day's drive. Elk Island National Park, 40 miles to the east, and numerous developed lake resorts in the immediate vicinity, provide for summer outings. The 2,700 seat Jubilee Auditorium provides unexcelled accommodation for cultural activities.

LETHBRIDGE

Lethbridge is 65 miles north of the United States-Canadian border and 139 miles southeast of Calgary. It was named in 1885 in honour of Sir William Lethbridge, first president of Northwest Coal and Navigation Company Limited. Earlier it was known as "Coal Banks". In 1901 the population was 2,072; in 1951 it was 22,947; and in 1958 reached 31,570. This increase places it among the fastest growing cities in Canada.

The district surrounding Lethbridge is served by a large irrigation development. There is large scale production of sugar beets and of row crop vegetables for canning and freezing. The other main industries in the district are beet sugar refining, vegetable processing, coal mining, natural gas processing, brewing, ironworks, and machinery manufacturing. The value of manufacturing in Lethbridge in 1957 was approximately \$19,100,000, employees numbered 1,180, and wages paid amounted to \$3,723,000.



ALBERTA GOVERNMENT PHOTOGRAPH

Calgary - Oil and financial capital of Western Canada.



ALBERTA GOVERNMENT PHOTOGRAPH

Edmonton - Provincial Capital and one of Canada's manufacturing centres.



Lethbridge - In the heart of the irrigation district of southern Alberta.

ALBERTA GOVERNMENT PHOTOGRAPH

Medicine Hat - Alberta's major ceramic and greenhouse industry centre.



ALBERTA GOVERNMENT PHOTOGRAPH



Red Deer - Midway between Calgary and Edmonton -- 700,000 persons live within a hundred miles.

ALBERTA GOVERNMENT PHOTOGRAPH

Rail service is provided by the Canadian Pacific Railway Crowsnest line and by branch lines from Calgary. The modern airport is equipped with navigational aids and an instrument landing system to facilitate operations in adverse weather. Scheduled air service is provided by Trans-Canada Airlines and Western Airlines. The city is at the intersection of three major paved highways.

Educational facilities are available to high school matriculation level. In addition, a Junior College offers courses at first year university level. The hospitals in the city had a bed capacity of 404 in 1957.

A notable feature of Lethbridge is its attractive appearance and its exceptionally fine recreational facilities. A Civic Centre, covering four city blocks, was built in 1948. This centre provides for most sports and recreational activities. Good hunting and fishing may be found in the surrounding area. Waterton Lakes National Park is 70 miles to the southwest. Winter weather is considerably modified by "Chinook" winds which raise temperatures well above freezing fairly frequently.

MEDICINE HAT

Medicine Hat was established in 1883, 195 miles east of Calgary, and 75 miles north of the Canadian-United States border. In 1901 the population was 1,570. This increased to 16,365 in 1951 and by 1958 had reached 21,080.

A large semi-arid prairie area, suited to wheat farming, sheep raising and cattle ranching, surrounds the city. Development of irrigation facilities is encouraging establishment of production of row crop vegetables. Availability of abundant cheap natural gas has encouraged a large business in raising of flowers and vegetables in greenhouses for winter consumption. The chief industries are manufacturing of clay and ceramic products, and fertilizers. The value of manufacturing in 1957 was approximately \$20,400,000, employees numbered 1,130, and wages paid amounted to \$3,730,000.

Medicine Hat is at the junction of the Canadian Pacific Railway transcontinental and Crowsnest Pass lines. There is a modern, city owned airport, and scheduled service is provided by Trans-Canada Airlines. The Trans-Canada highway runs through the city.

Educational facilities are available to high school matriculation level. Health services include a 250 bed hospital, opened in 1957.

Medicine Hat has been described as a city of trees and gardens. This is the result of a cheap and plentiful water supply and of the longest frost-free growing season of any locality in Alberta. There is provision for most sports including hunting and fishing in the surrounding countryside. A provincial park has been established in the Cypress Hills area, 30 miles to the south.

RED DEER

Red Deer is midway between Edmonton and Calgary in the Red Deer River Valley. There were only 325 inhabitants in the area by 1901, but growth was such that the city was incorporated in 1913. By 1951 the population was 7,575 and in 1958 totalled 17,000. In 1958 there were over 700,000 people living within 100 miles of the city. Between 1946 and 1948, Red Deer laid claim to being the only debt free city in Canada, but rapid growth since that time has ended that enviable position.

Red Deer is the centre of a rich mixed farming area. The district supports the only condensed milk plant in Alberta. The city's favourable central location in the province has led to the establishment of several distribution depots by national manufacturers. The value of manufacturing in 1957 was approximately \$7,100,000, employees numbered 310, and wages paid amounted to \$945,000.

Rail service is provided by the Canadian Pacific Railway Edmonton-Calgary line and by a Canadian National Railway branch line. No direct air service is available at present. The main Calgary-Edmonton highway runs through Red Deer.

Excellent educational facilities are available up to high school matriculation level. There is also a special provincial school for mentally retarded children established at Red Deer to serve the whole province. Health services include a hospital having a 90 bed capacity.

Provision has been made for most sports and recreational activities. Several developed summer resorts and good hunting and fishing are available in the surrounding area. Construction of the David Thompson Highway from Rocky Mountain House to link with the Banff-Jasper Highway will provide direct access from Red Deer to the two national parks.

LLOYDMINSTER

The Lloydminster area was settled by the Barr Colonists in 1903. Lloydminster is 175 miles east of Edmonton and straddles the Alberta-Saskatchewan boundary. All functions had to be duplicated until the two municipalities were amalgamated as the Town of Lloydminster in 1930. It was incorporated as a city on January 1, 1958. The population in 1951 was approximately 3,400 and by 1958 increased to 5,400.

Lloydminster is in a mixed farming and cattle raising area. Other than agriculture, the chief industry is petroleum and gas production from the heavy crude oil field in the area. Two refineries and several manufacturing plants produce asphaltic roofing materials and asphalt road construction emulsions. The value of manufacturing in 1957 was approximately \$10,000,000, employees numbered 315, and wages paid amounted to \$1,180,000.

Rail service is provided by branch lines of both the Canadian National Railway and the Canadian Pacific Railway. The city has a commercial airport with scheduled service provided by Pacific Western Airlines. There is a paved highway to Edmonton.

Educational facilities are provided up to high school matriculation level. Health services include a 95 bed hospital.

Provision has been made for a variety of sports and recreational activities. Game bird hunting, good fishing and developed summer resort facilities are available in the surrounding area.

CAMROSE

The Camrose area, approximately 50 miles southeast of Edmonton, was one of the earliest settled districts of the province with many homesteads taken up in the 1890's.

The census figures for 1911 show the town's population at that time to be 1,586. In 1951 the population was 4,130 and by 1958 had increased to 5,960. Camrose was incorporated as a city on January 1, 1955.

Camrose is surrounded by a rich mixed farming area, particularly noted for its hog and cattle production. Numerous producing oil wells and coal mines are in the surrounding area. One large plant produces breakfast foods and flour. The value of all manufacturing in 1957 was approximately \$1,300,000, employees numbered 80, and wages amounted to \$252,000.

Rail service is provided by branch lines of both Canadian Pacific Railway and Canadian National Railway. Camrose has no commercial airport and therefore, no direct air service. There is a paved highway to the main Calgary-Edmonton route.

Educational facilities are available up to high school matriculation level, and include one boarding school. Health services include a 100 bed hospital.

Provision has been made for a variety of sports and recreational activities. Several developed summer resorts are close by. Good game bird hunting and fishing can be found in the vicinity.

DRUMHELLER

Drumheller was incorporated as a town in 1916, five years after the opening of the first coal mine in the area. It was incorporated as a city in 1930. The 1921 census figures show a population of 2,499. The population remained fairly constant until 1958, numbering 2,630. In contiguous areas of the Red Deer River Valley, there is a static population of approximately 6,000.

Drumheller is surrounded by a rich and productive agricultural area. Exceptionally high grade cattle and sheep and some of the best wheat in western Canada are produced in this area, as attested by the number of champions acclaimed at the Toronto Royal and the Chicago World Grain Fairs over the past years. In addition to agriculture, the chief industries are coal mining and gas and oil production. The value of manufacturing in 1957 was \$300,000, employees numbered 30, and wages amounted to \$58,000.

Rail service is provided by both Canadian Pacific Railway and Canadian National Railway branch lines. The city has no commercial airport and, therefore, no direct air service. There are paved connections for highway transport.

Educational facilities are available to high school matriculation level and the city serves as a cultural centre for a large surrounding area. The municipally owned hospital has a 110 bed capacity.

Provision has been made for a variety of sports and recreational activities. Game bird hunting and fishing are available in the vicinity. Drumheller is the gateway to the famous Dinosaur and Pre-historic Park in the "Badlands" of the Red Deer River Valley.

GRANDE PRAIRIE

Grande Prairie is approximately 230 miles northwest of Edmonton. The 1921 census shows a population of 1,061. By 1951 the population was 2,660, and by 1958 had reached 7,280. Grande Prairie was incorporated as a city January 1, 1958.

The chief distribution centre for the south Peace River area is Grande Prairie. The district is primarily a grain farming area. In recent years there has been an increase in livestock production. Grass and legume seeds are becoming important products of the district. The chief industries are a plywood plant, lumber mills and an oil refinery. Value of all manufacturing in 1957 was approximately \$6,790,000, employees numbered 490, and wages paid amounted to \$1,484,000.

Rail service is provided by the Edmonton-Dawson Creek branch of the Northern Alberta Railway. There is a commercial airport at Grande Prairie and scheduled air service is provided by Canadian Pacific Airlines. The road linking Edmonton to the Alaska Highway passes through the city.

Educational facilities are available to high school matriculation level. Health services include an 80 bed hospital.

Provision has been made for a variety of sports. Good hunting and fishing can be found throughout the vicinity. There are two provincial parks in the district.



Drumheller - Major coal mining area -- near the famous Dinosaur Prehistoric Park in the Red Deer River Valley.

ALBERTA GOVERNMENT PHOTOGRAPH

Wetaskiwin - A supply centre for Alberta's rich agricultural industry.



ALBERTA GOVERNMENT PHOTOGRAPH



Camrose - "In the heart of Alberta's best farming area".

ALBERTA GOVERNMENT PHOTOGRAPH

LLOYDMINSTER

CAMROSE

DRUMHELLER

Coal, petroleum, natural gas, sand, gravel.

Coal, petroleum, natural gas, sand, gravel, bentonite.

Coal, petroleum, natural gas, sand, gravel, clay, shale, bentonite.

Meats, dairy products, poultry products, wheat, coarse grains, honey.

Meats, dairy products, poultry products, wheat, coarse grains.

Meats, dairy products, poultry products, wheat, coarse grains, vegetables.

Hides, wool, straw.

Hides, straw.

Hides, wool, straw.

Gross Value Manufacturing - 1957
\$10,000,000
Foods & Beverages
Paper Products
Iron & Steel Products
Products of Petroleum & Coal
Chemical Products

Gross Value Manufacturing - 1957
\$1,300,000
Foods & Beverages
Wood Products
Printing, Publishing & Allied Products
Iron & Steel Products
Non-metallic Mineral Products

Gross Value Manufacturing - 1957
\$300,000
Foods & Beverages
Wood Products
Iron & Steel Products

Population: 5470
Population within 50 mi. radius: 55,000

Population: 5960
Population within 50 mi. radius: 95,000

Population: 2630
Population within 50 mi. radius: 44,000

City owned sites available on trackage.
Price to be negotiated.

City & privately owned sites available.
\$1000 per acre and up. Trackage for some sites.

50 acres @ \$100-\$500 per acre. Utilities, trackage.



Drumheller - Major coal mining area -- near the famous Dinosaur Prehistoric Park in the Red Deer River Valley.

ALBERTA GOVERNMENT PHOTOGRAPH

Wetaskiwin - A supply centre for Alberta's rich agricultural industry.



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Camrose - "In the heart of Alberta's best farming area".

ALBERTA GOVERNMENT PHOTOGRAPH

CALGARY

EDMONTON

I. LOCATION OF PRODUCTION MATERIALS

(1) Minerals & their by-products:

(a) Metallic:

Iron Ore (near Burmis, 150 mi. s.w.)

Base metals & uranium from N.W.T. shipped through city. Refined nickel at Ft. Saskatchewan from ore concentrates. Metals in nickel refinery slag.

(b) Non-metallic:

Coal, petroleum, natural gas, sulphur, limestone, barytes, sand, gravel.

Coal, petroleum, natural gas, sulphur, limestone, sand, gravel, clay, shale, marl, bentonite.

(2) Non-mineral & by-products:

(a) Foods

Meats, dairy products, poultry products, coarse grains, wheat.

Meats, dairy products, poultry products, wheat, coarse grains, fish, vegetables, honey.

(b) Forest products:

Finished lumber.

Finished lumber, plywood, wood pulp.

(c) Fibres, furs, hides:

Hides, brush bristles, straw.

Hides, furs, synthetic yarns, glass fibre, straw.

(3) Partly processed or manufactured products:

Gross Value Manufacturing - 1957
\$222,900,000
Foods & Beverages
Leather Products
Textile Products (except clothing)
Clothing (textile and fur)
Wood Products
Paper Products
Printing, Publishing & Allied Products
Iron & Steel Products
Transportation Equipment
Non-ferrous Metal Products
Electrical Apparatus
Non-metallic Mineral Products
Products of Petroleum & Coal
Chemical Products

Gross Value Manufacturing - 1957
\$370,900,000
Foods & Beverages
Rubber Products
Leather Products
Textile Products (except clothing)
Clothing (textile and fur)
Wood Products
Paper Products
Printing, Publishing & Allied Products
Iron & Steel Products
Transportation Equipment
Non-ferrous Metal Products
Electrical Apparatus
Non-metallic Mineral Products
Products of Petroleum & Coal
Chemical Products

II. POPULATION OF CITIES, 1958:

Population: 223,500
Population within 50 mi. radius: 271,000

Population: 280,000
Population within 50 mi. radius: 380,000

III. SITES:

(1) Area and cost of land available for industrial expansion as of 1958:

HIGHFIELD INDUSTRIAL PARK :
115 acres @ \$6750 per acre. Utilities, trackage. Zoned light industrial area. Surrounding area subject to zoning and performance standards.

BREMNER-HUFF INDUSTRIAL SUB-DIVISION:
65 acres @ \$7500 per acre. Trackage. Zoned into light & heavy industrial areas.

MANCHESTER INDUSTRIAL DISTRICT:
80 acres @ \$6750 per acre. Utilities, trackage. Zoned heavy industrial area. Surrounding area subject to zoning and performance standards.

MOUNT LAWN INDUSTRIAL SUB-DIVISION:
15 acres @ \$6000 per acre. Trackage. Zoned into light & heavy industrial areas.

OGDEN-BARLOW INDUSTRIAL DISTRICT :
1800 acres @ \$6750 per acre. Utilities ties, trackage. Near refinery and petrochemical sites.

CORONET INDUSTRIAL SUB-DIVISION:
130 acres @ \$8000 per acre. Privately owned. Planned for heavy industry.

MERIDIAN INDUSTRIAL DISTRICT:
210 acres @ \$6000-\$7000 per acre. Being developed by private interests.

CORONET ADDITION INDUSTRIAL SUB-DIVISION:
40 acres @ \$6000-\$7500 per acre. Trackage. Zoned into light & heavy industrial areas.

TABLE 79. INDUSTRIAL LOCATION FACTORS - EIGHT ALBERTA CITIES

LETHBRIDGE	MEDICINE HAT	RED DEER
Iron Ore near Burmis, approximately 75 mi. w.)		
Coal, petroleum, natural gas, sulphur, limestone, barytes, sand, gravel, shale, bentonite, mica schist, talc, volcanic ash, pyrophyllite.	Coal, natural gas, sand, gravel, rough pottery clay, ball mill pebbles.	Coal, petroleum, natural gas, sulphur, limestone, sand, gravel, clay.
Meats, dairy products, poultry products, wheat, coarse grains, irrigated vegetable crops, honey, sugar beets, oil bearing seed crops.	Meats, wheat, flax, vegetables.	Meats, dairy products, poultry products, honey, wheat, coarse grains.
Finished lumber.	Pit props, fence posts.	Finished lumber, pit props, railroad ties.
Hides, wool, straw.	Hides, wool, straw.	Hides, straw.
Gross Value Manufacturing - 1957 \$19,100,000; Foods & Beverages Textile Products (except clothing) Clothing (textile and fur) Wood Products Printing, Publishing & Allied Products Iron & Steel Products Transportation Equipment Non-metallic Mineral Products Chemical Products	Gross Value Manufacturing - 1957 \$20,400,000 Foods & Beverages Wood Products Printing, Publishing & Allied Products Iron & Steel Products Transportation Equipment Non-metallic Mineral Products Chemical Products	Gross Value Manufacturing - 1957 \$7,100,000 Foods & Beverages Wood Products Printing, Publishing & Allied Products Iron & Steel Products Electrical Apparatus Non-metallic Mineral Products
Population: 31,570 Population within 50 mi. radius: 90,000	Population: 21,080 Population within 50 mi. radius: 34,000	Population: 17,000 Population within 50 mi. radius: 105,000
40 acres @ \$2500-\$4000 per acre. Utilities, trackage. In small acreages. 183 acres @ \$4000-\$5500 per acre. Utilities, trackage.	Several small areas - price to be negotiated. Utilities, trackage. 320 acres - privately owned. Utilities, trackage.	NORTH WAREHOUSE DISTRICT: 80 acres. Zoned for warehousing and implement depots. Subject to performance standards. LIGHT INDUSTRIAL DISTRICT: 200 acres @ \$1500-\$2000 per acre. Utilities, trackage. HEAVY INDUSTRIAL DISTRICT: 1500 acres. Price to be negotiated. Power and gas, trackage.

LLOYDMINSTER

CAMROSE

DRUMHELLER

10" - 12" black soil. 15" - 20" compact sub-soil. Lime layer 24" - 30" below surface.

12" - 14" black soil. 24" - 30" compact clay sub-soil. Lime layer 30" - 40" below surface. Drainage good.

Sedimentary soil. Lime layer 24" below surface.

Natural gas, electricity, propane, diesel fuel.

NATURAL GAS:

Commercial:

1st 40 MCF per mo. 33¢ per MCF.
Next 50 MCF per mo. 30¢ per MCF.
All over 90 MCF per mo. 28¢ per MCF.

Industrial:

1st 200 MCF per mo. 28¢ per MCF.
Next 300 MCF per mo. 22¢ per MCF.
Next 300 MCF per mo. 20¢ per MCF.
All over 800 MCF per mo. 18¢ per MCF.

Propane:

100 lb. cylinder Alta. gas - \$6.50.
100 lb. cylinder Sask. gas - \$8.00

Diesel Fuel:

Summer grade 17.9¢ per gallon.
Winter grade 19¢ per gallon.

Natural gas, electricity, coal, propane, diesel fuel.

NATURAL GAS:

Contract rate of consumption over 741 MCF per annum, the Fixed Charge is \$10.00 per month. Usage rate of 24¢ per MCF.

High Load Factor Rate:

Fixed Charge: \$20.00 per mo., plus \$1.75 per MCF of maximum 12 hr. demand.

Commodity Charge:

1st 1000 MCF per mo. 17¢ per MCF
Next 100 MCF per mo. 15¢ per MCF
All additional MCF per mo. 13¢ per MCF

Natural gas, electricity, coal, propane, diesel fuel.

NATURAL GAS:

Rate 18¢ per MCF for large industrial users.

COAL:

75¢ per ton for large industrial users.

Commercial Airport.
Scheduled service: PWA.
Railways: CNR, CPR.
Bus and Truck service.
Highways - paved connections.

Private Airport only.
No scheduled air service.
Railways: CNR, CPR.
Bus and Truck service.
Highways - paved connections.

Private Airport only.
No scheduled air service.
Railways: CNR, CPR.
Bus and Truck service.
Highways - paved connections.

Trading area includes west to Lea Park south to Kitscoty; and a large area in Saskatchewan.

Trading area includes north to Tofield, east to Saskatchewan border; west to Gwynne; south to Stettler.

Trading area includes north to Stettler; east to Saskatchewan border; south to Duchess; west to Beiseker.

Population served approximately 20,000. (over 50,000 within a 50 mi. radius.)

Population served approximately 54,000.

Population served approximately 40,000.

Truck terminal facilities; CNR and CPR branch lines; paved highways to Edmonton and Saskatoon.

Truck terminal facilities; CNR and CPR branch lines; paved highway to Edmonton and Calgary.

Truck terminal facilities; CNR and CPR branch lines; paved highway to Calgary.

CALGARY

EDMONTON

III. SITES (continued):

- (1) Area and cost of land available for industrial expansion as of 1958 (cont'd):

NORTH CALGARY INDUSTRIAL DISTRICT:
360 acres @ \$6000-\$7000 per acre. Utilities, some trackage. Zoned as light industrial area.

BONNYBROOK INDUSTRIAL DISTRICT:
90 acres @ \$6000-\$7000 per acre. Utilities, trackage. Zoned heavy industrial area. Performance standards apply.

SOUTH ALLENDALE INDUSTRIAL SUB-DIVISION:
20 acres @ \$9000-\$12,000 per acre. No trackage. Privately owned. On or adjacent to main highway.

- (2) Soil Structure & Topographic Features:

6" - 12" black soil.
2' - 3' heavy sub-soil with admixture of sand and gravel. Gravel base. Bearing qualities good. Sub-surface drainage good. Water table not adversely high.

6" - 12" black soil. Sub-soil heavy gumbo clay to below basement depth with tendency to expansion.

IV. INDUSTRIAL FUELS:

- (1) Types of fuel available:

Natural gas, electricity, coal, propane, diesel fuel.

Natural gas, electricity, coal, propane, diesel fuel.

- (2) Cost of fuel to industry:

NATURAL GAS:

Commercial & Industrial Rates:
(For customers using in excess of 9906 MCF per year):

(1) Consumption 9906 MCF-34,000 MCF per year - Fixed charge \$35.00 per month plus commodity charge of 22¢ per MCF; minimum monthly charge of \$35.00.

(2) Customers whose annual consumption is greater than 34,000 MCF per year - fixed charge \$120.00 per month plus commodity charge of 19¢ per MCF; minimum monthly charge \$120.00

Optional High Load Factor Rate:
(For customers on annual contract whose annual consumption of gas is not less than 12,000 MCF - fixed charge \$20.00 per month plus \$1.00 per month per 1000 cu.ft. of maximum 12-hour demand.

Commodity Charge:
1st 2000 MCF per month 19¢ per MCF; next 2000 MCF per month 16¢ per MCF; next 150,000 MCF per month 14¢ per MCF. All additional MCF - 13.5¢ per MCF.
Minimum monthly charge -- the fixed charge as above.

NATURAL GAS:

Industrial rates are determined by the annual consumption as well as load factor. Common industrial rates would be as follows:

To all customers whose annual consumption is more than 12,000 MCF and whose total consumption during the six meter reading periods ending in October, is not less than 50% of their total consumption during the contract period:--
Fixed charge \$20.00 per month plus \$1.75 per month per MCF of maximum 12 hour demand.

1st 1000 MCF per mo. \$0.14 per MCF
Next 1000 MCF per mo. \$0.12 per MCF
All additional MCF per mo. \$0.10 per MCF

V. TRANSPORTATION FACILITIES:

- (1) Facilities available:

Commercial airport.
Scheduled service: TCA, CPA, WA.
Railways: CNR, CPR.
Bus and Truck service.
Highways - paved connections.
On Trans Canada Highway.

Commercial airport.
Scheduled service: TCA, CPA, PWA, NA, NOA.
Railways: CNR, CPR, NAR.
Bus and Truck service.
Highways - paved connections.

VI. MARKET AREAS:

Trading area covers all Alberta from Red Deer south; part of southern Saskatchewan; southern B.C. as far west as Trail & Nelson.

Population served approximately 500,000.

Trading area includes Alberta south to Red Deer; east to Lloydminster; west to Jasper; and north to include NWT and northeast B.C. and Yukon.

Population served approximately 600,000.

VII. DISTRIBUTION FACILITIES:

Adequate storage & warehouse space; truck terminal facilities; railway terminal facilities; CPR transcontinental rail line; Trans Canada Highway.

Adequate storage and warehouse space; truck terminal facilities; railway terminal facilities; CNR transcontinental rail line; NAR connection to Mackenzie River water transport system.

INDUSTRIAL LOCATION FACTORS - EIGHT ALBERTA CITIES (CONTINUED)

LETHBRIDGE

Brown and black soil. Gravel sub-soil. Load bearing 4000 lb. per square foot. Drainage good.

Natural gas, electricity, coal, propane, diesel fuel.

NATURAL GAS:

Commercial & Industrial Rates:
This schedule is available to all commercial and industrial customers using in excess of 9906 MCF per year.

Net Rates:
Customers whose annual consumption is greater than 9906 MCF per year and less than 34,000 MCF per year:
Fixed Charge: \$35.00 per month plus Commodity Charge of 22¢ per MCF. Minimum monthly charge: \$35.00

Customers whose annual consumption is greater than 34,000 MCF per year:
Fixed Charge: \$120.00 per month plus Commodity Charge of 19¢ per MCF. Minimum monthly charge: \$120.00

COAL:
\$4.00 - \$4.25 per ton.
F.O.B. Mine prices —
Lump - \$10.00 per ton.
Egg - \$8.50 per ton.
Stoker - \$6.50 per ton.
Bone - \$4.00 per ton.
Pea Slack - \$2.25 per ton.

Commercial Airport.
Scheduled service: TCA, WA.
Railways: CPR.
Bus and Truck service.
Highways - paved connections.

Trading area includes Alberta south to international border; east to Saskatchewan border; north to Nanton and Vulcan; and west through Crowsnest Pass to Trail, B.C.

Population served approximately 200,000.

Adequate warehouse space; truck terminal facilities; CPR Crowsnest transcontinental rail line.

MEDICINE HAT

10" - 15" brown soil. Sub-soil clay. Lime layer 15" - 20" below surface.

Natural gas, electricity, coal, propane, diesel fuel.

NATURAL GAS:

Combined Heating and Industrial Process:
1st 100 MCF per mo. 19¢
Next 400 MCF per mo. 16 1/2¢
All over 500 MCF per mo. 15 1/2¢

Commercial: for power and process, and wholesale contract customers:
Demand Charge \$1.00 per 100 MCF per mo. plus:
Fuel rate: up to 750 MCF 14¢ per M
up to 2,000 MCF 13.5¢ "
up to 5,000 MCF 11.5¢ "
up to 15,000 MCF 10.5¢ "
up to 25,000 MCF 10 ¢ "
over 25,000 MCF 8.5¢ "

There are no meter rentals. The natural gas is of the dry variety, and is high in quality. It is composed of 99.47% methane with 980 BTU's per cu.ft.

Commercial Airport.
Scheduled service: TCA.
Railways: CPR.
Bus and Truck service.
Highways - paved connections.
On Trans Canada Highway.

Trading area includes south to international border; east to Maple Creek, Sask.; north-west to Duchess.

Population served approximately 60,000.

Truck terminal facilities; CPR transcontinental rail line; Trans Canada Highway.

RED DEER

12" - 14" black soil. 24" - 30" compact sub-soil. Lime layer 40" below surface.

Natural gas, electricity, coal, propane, diesel fuel.

NATURAL GAS:

To all commercial and industrial consumers using in excess of 741 MCF per year, the Fixed Charge is \$10.00 per mo., plus Commodity Charge of 24¢ per MCF.

PROPANE:
Bulk per gallon - \$0.16.
100 lb. cylinders - \$6.50

DIESEL FUEL
Winter grade - \$0.19 per gallon.
Summer grade - \$0.17 per gallon.

COAL	Location	BTU	Nut Value	Nut Slack	Stoker	Nut
Drumheller	11,000					\$ 8.50
Saunders	12,800	\$10.00				\$11.75
Blairmore	14,500			\$12.00		
Ardley	9,500	\$ 7.00				

	Egg	Lump
Drumheller	\$11.50	\$12.00
Saunders	\$13.25	\$14.50
Blairmore	-	-
Ardley	-	-

Private Airport only.
No scheduled air service.
Railways: CNR, CPR.
Bus and Truck service.
Highways - paved connections.

Trading area includes central Alberta east to Saskatchewan border.

Population served approximately 120,000. (over 700,000 within a 100 mi. radius.)

Adequate warehouse space; truck terminal facilities; CPR line Edmonton to Calgary.

LLOYDMINSTER

Canadian Utilities Ltd. steam generation plant at Vermilion.

Power Rate:
Up to 25 KWH per hp: 7¢ per KWH.
Up to 50 KWH per hp: 4¢ per KWH.
Excess of 50 KWH per hp: 2¢ per KWH.

Special industrial rates to be arranged for large users in accordance with requirements of consumer.

Water supply from 4 wells; 2 in use and 2 standby - each approximately 175 ft. deep.

Capacities of 2 wells in use: 150,000 gal. per 24 hrs. and 14,000 gal. per 24 hrs.

Water reservoir storage capacity: 103,400 gal.

Well water:

Total hardness: 444 ppm.

Small business & residential rate:

0-3000 gal/mo.; (Min. \$3.00)
All additional: 65¢/1000 gal/mo.

Large industrial users - flat rate 20¢ per 1000 gals.

CAMROSE

Calgary Power Ltd.

Commercial Rate:
1st 500 watts installed: 60¢ per mo.
Each additional 250 watts installed: 20¢ per mo.

Energy Charge:
1st 50 KWH per mo. per KW installed: 6¢ per KWH.
Next 150 KWH per mo. per KW installed: 2¢ per KWH.
All over 200 KWH per Mo. per KW installed: 1 1/2¢ per KWH.

Power Rate:
Service Charge \$1.00 per mo. per installed KVA, plus energy charge.

1st 100 KWH per mo. per KVA installed: 3 1/2¢ per KWH.
All over 100 KWH per mo. per KVA installed: 1 2/3¢ per KWH.

Special rates for large consumers may be negotiated.

Water supply from 1 deep drilled well and by pipeline from Dried Meat Lake.

2 concrete holding reservoirs. Supply considered adequate for all anticipated growth of the city.

Well water and lake water:

Total hardness: summer, 150 ppm; winter, 300 ppm.

Rates:

0-200 cf (Min. \$3.00 per mo.)
Next 4800 cf per mo. 55¢ per 100 cf.

All over 5000 cf per mo. 50¢ per 100 cf.

DRUMHELLER

Canadian Utilities Ltd. steam generation plant.

Commercial Rate:

Demand Charge:
50¢ per 1000 watts connected.
1st 25 KWH @ 5¢ per KWH.
Next 100 KWH @ 2 1/2¢ per KWH.
All additional @ 1 1/2¢ per KWH.

Power Rate:
1st 25 KWH per hp @ 5¢ per KWH.
Next 50 KWH per hp @ 3¢ per KWH.
All additional KWH per hp @ 2¢ per KWH.

Special rates arranged for large users in accordance with consumer requirements.

Water supply from wells approximately 40 ft. deep, fed by infiltration from Red Deer River. Main pump capacity 1600 gal. per minute. Standby pump capacity 1000 gal. per minute.

Water storage capacity: 175,000 gal.

Well water:

Total hardness: 287 ppm.

Rates:

(Minimum Charge: \$2.50 per mo.)

0- 5,000 gal/mo.: 75¢/1000 gal.
5,000- 10,000 gal/mo.: 69¢/1000 gal.
10,000- 20,000 gal/mo.: 63¢/1000 gal.
20,000- 50,000 gal/mo.: 56¢/1000 gal.
50,000-150,000 gal/mo.: 44¢/1000 gal.
All over 200,000 gal/mo.: 38¢ per 1000 gal.

Large industrial users consuming over 1 million gal/mo., flat rate of 17.5¢ per 1000 gal.

CALGARY

EDMONTON

VIII. ELECTRIC POWER:

(1) Source of Power:

* All electric power supplied is 3 phase, 60 cycle A/C. All power plants interconnected to accommodate increased load demands and improve reliability of supply.

Calgary Power Ltd. from 11 hydro electric plants on the Bow River and tributaries. Supplied at any voltages required by consumer. City owned distribution system.

City owned gas fired steam generation plant. Commercial voltages 120 - 240. Industrial power supplied at 2300 or 13,200 volts. Customer to supply all necessary transformers and switching equipment.

(2) Cost:

Commercial Light Rates (120-240 volts):
1st 300 KWH - 5¢ per KWH.
Next 300 KWH - 4¢ per KWH.
All over 600 KWH - 2¢ per KWH.

Power Rates: (240 volts - 3 phase - 3 wire)
(Under 100 KVA of Demand)
1st 30 KWH per HP of connected load:
--- 2¢ per KWH.
Next 30 KWH per HP of connected load:
--- 1.6¢ per KWH.
All in excess of 60 KWH per HP of connected load: --- 1.2¢ per KWH.

Industrial Power load rate information provided on request.

Rates for Industry:
4160 volt 3 phase service 75 KVA or over. (Customers to supply transformers, switching equipment, etc., service to be taken at 2300 volt 3 phase and to have measured maximum demand not less than 74 KVA and taking minimum consumption of 10,000 KWH per month.)

1st 50 hrs use of KVA of demand - 1.1¢ per KWH.
Next 50 hrs use of KVA of demand - 1.0¢ per KWH.
Next 100 hrs use of KVA of demand - 0.9¢ per KWH.
Over 200 hrs use of KVA of demand - 0.8¢ per KWH.

IX. WATER SUPPLY:

(1) Source & quantity available:

Water supply from Bow River and wells for individual supply.

Bow River stream flow:
Average winter minimum: 750 CFS.
Average summer maximum: 13,850 CFS.

There is a large undiminishing water bearing stratum approximately 50 feet below the surface.

Water supply from North Saskatchewan River.

Stream flow:
Average winter minimum: 800 CFS.
Average summer maximum: 22,000 CFS.

(2) Quality of Water Supply:

Bow River water:

Total hardness averages 194 ppm. Water clear in winter, somewhat turbid in summer.

Well water total hardness: 180 ppm.

North Saskatchewan River water:

Total hardness untreated: summer, 138 ppm; winter, 228 ppm. Treatment reduces total hardness to approximately 75 ppm year round.

Water clear in winter, turbid in summer.

(3) Cost of Water:

Gals.	Rate Per 1000 Gals.	Maximum Charge Per Month
0- 5,000	44¢	\$ 2.20(Min.)
5,001- 10,000	40¢	\$ 4.20(Max.)
10,001- 30,000	36¢	\$ 11.40(Max.)
30,001- 60,000	29¢	\$ 20.10(Max.)
60,001-150,000	20¢	\$ 38.10(Max.)
150,001-500,000	18¢	\$101.10(Max.)
500,001-upwards	15¢	

Industrial water rates are as follows exclusive of sewer service charge:

Consumption(cu.ft.) per mo. (from)	Minimum Charge
13,601 to 14,780	\$ 34.00
24,001 to 26,290	\$ 55.20
36,001 to 39,700	\$ 75.60
100,001 to 111,760	\$ 190.00
500,001 to 531,250	\$ 850.00
1,500,001 to 1,600,000	\$2,400.00
3,000,001 to 3,461,540	\$4,500.00

INDUSTRIAL LOCATION FACTORS - EIGHT ALBERTA CITIES (CONTINUED)

LETHBRIDGE

City owned gas fired steam generation plant. Supplied at any voltage.

Non-industrial rate (may be applied to industrial users in excess of 10,000 KWH on application).

Demand Charge:
\$0.80 per KVA at 2300 or 4000 volts.
\$1.00 per KVA at low voltage.

Energy Charge:
1st 1000 KWH at 3¢ per KWH.
Next 3000 KWH at 2¢ per KWH.
Next 6000 KWH at 1.5¢ per KWH.
Remainder up to 300 KWH per KVA demand at 1.1¢ per KWH.

Industrial rate (applied to users served by existing power lines and requiring average of 10,000 KWH per month or more for a 12-month period).

Demand Charge:
\$0.80 per KVA at 13,200 volts.
\$1.00 per KVA at 2300-4000 volts.
\$1.20 per KVA for low voltage.

Energy Charge:
1st 10,000 KWH at 1.4¢ per KWH.
Next 10,000 KWH at 1.0¢ per KWH.
Remainder up to 300 KWH per KVA demand at 0.75¢ per KWH.

Water supply from Oldman River.

Stream flow:
Average winter minimum: 520 CFS.
Average summer maximum: 12,200 CFS.

Oldman River water:

Total hardness untreated: summer, 120 ppm; winter, 150 ppm. Treatment reduces total hardness by approximately 50% before it enters city mains.

Commercial Water Rates: Consumption(cu.ft.) per mo. (from)	Rate per 100 cu.ft.
0 to 800	37¢
801 to 1,800	34¢
1,801 to 4,000	31¢
4,001 to 7,000	28¢
7,001 to 13,600	25¢
13,601 to 21,000	23¢
21,001 to 28,000	22¢
28,001 to 36,000	20¢
36,001 to 100,000	18¢
100,001 to 500,000	16¢

MEDICINE HAT

City owned gas fired steam generation plant.

Commercial Rate:
230 volt service for installations not less than 5 HP capacity.

Demand Charge:
\$1.00 per HP of connected load or KVA measured.

Energy Charge:
1st 100 KWH per HP or KVA: 1 1/2¢ per KWH.
All additional KWH: 1¢ per KWH.

Contract Primary Power:
5-year contract service 4000 volts, not less than 100 HP or 75 KVA rated capacity and not less than 10,000 KWH per month.

Demand Charge:
\$1.00 per KVA.

Energy Charge:
1st 100 KWH per KVA demand at 0.75¢ per KWH.
All additional: 0.50¢ per KWH.

Special Rates:
Available for 13,800 volt service.

Water supply from South Saskatchewan River.

Stream flow:
Average winter minimum: 1350 CFS.
Average summer maximum: 53,870 CFS.

South Saskatchewan River water:

Total hardness: summer, 120 ppm; winter, 240 ppm.

Commercial Water Rates:	
1,000 6,000 per M gals. (Min. \$1.50/mo.)	
6,000 10,000 " " " " \$1.68/mo.)	
10,000 25,000 " " " " \$2.53/mo.)	
25,000 45,000 " " " " \$5.94/mo.)	
Other rates available for commercial users of 45,000 (thousand) gallons per month to a million-thousand or more. Meter rentals are in accordance with size of pipe, ranging from 15¢ per month for a 1 inch pipe to \$5.00 per month for the 6 inch size.	

RED DEER

Calgary Power Ltd.

Industrial Rate:

Basic Rate:
Service Charge: 75¢ per KVA installed capacity or \$1.00 per KVA demand.

1st 25 KWH per KVA installation: 5¢ per KWH.
Next 50 KWH per KVA installation: 3¢ per KWH.
Next 50 KWH per KVA installation: 2¢ per KWH.
All additional: 1.5¢ per KWH.

Energy Charge:
1st 25 KWH per KVA demand: 6¢ per KWH.
Next 25 KWH per KVA demand: 5¢ per KWH.
Next 50 KWH per KVA demand: 3¢ per KWH.

Water supply from Red Deer River.

Stream flow:
Average winter minimum: 250 CFS.
Average summer maximum: 19,150 CFS.

Red Deer River water:

Total hardness untreated: summer, 130 ppm; winter, 200 ppm. Treatment reduces total hardness to approximately 100 ppm year round.

Commercial water rates supplied on request.
Sample charges below:
1000 cf per mo. - \$3.45
1400 cf per mo. - \$4.20
1800 cf per mo. - \$5.40
2200 cf per mo. - \$6.60
All over 2200 cf per mo. at 30¢ per 100 cf.

LLOYDMINSTER

CAMROSE

DRUMHELLER

Alberta Labour Act
 Provincial Business Licencing
 City permit required for all construction

Alberta Labour Act
 Provincial Business Licencing
 City permit required for all construction

Alberta Labour Act
 Provincial Business Licencing
 City permit required for all construction

Land assessed at 100% of 1942 fair value.
 Improvements assessed at 60% of 1942
 replacement value.
 1957 mill rate was 55.0
 Business tax 7 1/2 - 15% on rental value.

Land assessed at 100% of 1942 fair value.
 Improvements assessed at 60% of 1942
 replacement value.
 1957 mill rate was 65.0

Mean summer temperature is 53°F.
 Mean winter temperature is 13°F.
 Average rainfall is 12.4 inches.
 Average snowfall is 40.5 inches.
 Altitude is 2125 ft.

Mean summer temperature is 53°F.
 Mean winter temperature is 18°F.
 Average rainfall is 12.1 inches.
 Average snowfall is 45.8 inches.
 Altitude is 2427 ft.

Mean summer temperature is 57°F.
 Mean winter temperature is 18°F.
 Average rainfall is 9.86 inches.
 Average snowfall is 45.0 inches.
 Altitude is 2247 ft.

CALGARY

EDMONTON

IX. WATER SUPPLY (continued)

(3) Cost of Water (cont'd)

Consumption(cu.ft.) per mo. (from)	Per 100 cu.ft.
14,781 to 24,000	23¢
26,291 to 36,000	21¢
39,791 to 100,000	19¢
111,761 to 500,000	17¢
531,251 to 1,500,000	16¢
1,600,001 to 3,000,000	15¢
3,461,541 to upwards	13¢

X. LOCAL LAWS & REGULATIONS OF SIGNIFICANCE TO PROSPECTIVE INDUSTRY:

Alberta Labour Act
Provincial Business Licencing
City Business Licencing
City permit required for all construction
Zoning Bylaw
Building Code Bylaws
Waste Disposal Regulations
District Planning Commission

Alberta Labour Act
Provincial Business Licencing
City Business Licencing
City permit required for all construction
Zoning Bylaw
Building Code Bylaws
Waste Disposal Regulations
District Planning Commission

XI. CITY TAX STRUCTURE:

Land assessed at 100% of 1944/45 fair value.
Improvements assessed at 60% of 1944/45 replacement value.
1957 mill rate was 47.0
Business tax 10% on gross rental value.

Land assessed at 100% of 1944/45 fair value.
Improvements assessed at 60% of 1944/45 replacement value.
1957 mill rate was 54.0
Business tax 6-20% on a current rental value; the lower rate applies to manufacturing concerns.

XII. CLIMATE:

Mean summer temperature is 59°F.
Mean winter temperature is 17°F.
Average rainfall is 11.97 inches.
Average snowfall is 57.0 inches.
Altitude is 3439 ft.

Winter conditions modified by "Chinook" winds which frequently raise temperatures by 30-40°F. in a few hours.

Mean summer temperature is 60°F.
Mean winter temperature is 10°F.
Average rainfall is 12.34 inches.
Average snowfall is 52.9 inches.
Altitude is 2188 ft.

INDUSTRIAL LOCATION FACTORS - EIGHT ALBERTA CITIES (CONTINUED)

LETHBRIDGE

Commercial Water Rates:
Consumption(cu.ft.)
per mo. (from) (cont'd)

Rate per
100 cu.ft.

500,001 to 1,500,000 14¢
1,500,001 to upwards 13¢

Commercial Minimum Rates:
(Based on size of meter)

1/2" & 3/4"	\$ 2.50	680 cu.ft.
1"	\$ 3.00	880 cu.ft.
1 1/4"	\$ 3.75	1100 cu.ft.
1 1/2"	\$ 4.50	1320 cu.ft.
2"	\$ 5.25	1540 cu.ft.
3"	\$ 6.50	2100 cu.ft.
4"	\$ 7.50	2420 cu.ft.
6"	\$ 12.00	3870 cu.ft.
8"	\$ 18.00	6430 cu.ft.
10"	\$ 26.00	

Special Service Charges:
Meter Check Test (all sizes) \$1.00
Frozen Water Meters \$1.75
Hot Water Damage \$2.50

Alberta Labour Act
Provincial Business Licencing
City Business Licencing
City permit required for all construction

Land assessed at 100% of 1942 fair value.
Improvements assessed at 60% of 1942
replacement value.
1957 mill rate was 69.0
Business tax 10% on rental value.

Mean summer temperature is 62°F.
Mean winter temperature is 19°F.
Average rainfall is 10.74 inches.
Average snowfall is 60.0 inches.
Altitude is 2980 ft.

Winter conditions include "Chinook" winds
which frequently raise temperatures by
30-40°F. in a few hours.

MEDICINE HAT

Alberta Labour Act
Provincial Business Licencing
City Business Licencing
City permit required for all construction

Land assessed at 100% of 1942 fair value.
Improvements assessed at 60% of 1942
replacement value.
1957 mill rate was 43.0
Business tax 11% on rental value.

Mean summer temperature is 62°F.
Mean winter temperature is 27.5°F.
Average rainfall is 11.44 inches.
Average snowfall is 35.6 inches.
Altitude is 2185 ft.

Medicine Hat has the longest frost-free
growing season of any locality in Alberta.

RED DEER

Alberta Labour Act
Provincial Business Licencing
City Business Licencing
City permit required for all construction

Land assessed at 100% of 1942 fair value.
Improvements assessed at 60% of 1942.
replacement value.
1957 mill rate was 70.0
Business tax 4 1/2 - 12% on rental value.

Mean summer temperature is 59°F.
Mean winter temperature is 9°F.
Average rainfall is 15.74 inches.
Average snowfall is 48.9 inches.
Altitude is 2819 ft.

Accession no.

Author **Alberta. Bureau of Statistics. Alberta;
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Order no.

Date rec'd **Oct. 2/59**

Gift/Exchange

Source **Alberta Bureau of Statistics, Department of
Industry and Development, Edmonton, Alta.**

List price

Destination

